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FOOD *and* HEALTH IN A NUT-SHELL

✓ By

Frank M. Wood, A. B. M. D.
Chicago, U. S. A.

A Personal Health-Instructor—A Home Food Expert—
A Parent's and Children's Friend—As Full of
Truth and Facts As a Nut is of Meat—
For Your Help and Instruction.

Compiled By An Expert

Who has studied out for *you* what you have tried to study out—
thought out what *you* have pondered—found out what
you wanted to find out about the unsolved
problem of living a healthy and
happy life—told *you* in this
one little volume.

FIRST EDITION



Chicago
Immunity Press
1917

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FOREWORD

The physical condition of the youth of this **Nation** is such that it is a matter of great concern to us as a people to know that the majority of our young men are unfit to either assume the duties of citizenship, or to serve as soldiers in the **Army** or seamen in the **Navy**. This statement has been proven over and over again by the large number of rejections among those who apply for service in the **Army** and **Navy**. There is a reason for this, and it lies in the fact that the food upon which we are feeding the children of the rising generation is unfit to make bone and muscle, and men of stamina.

This book is primarily intended as the opening gun of the war against these food conditions. It is the **foundation-stone** in the greatest **preparedness program** which has ever been inaugurated, for the **conservation of the health and life of all our people**. We are pleased to be able to place this work at the disposal of the people.

**Dedicated to the countless
millions of children who
die annually from malnu-
trition due to lack of proper
foods.**

PREFACE

The impulse for writing this book is to pass on to the people some valuable observations on the art of right living, so that the vitality of the men, women and children of this generation may be greatly increased, and that they may have life and may have it more abundantly. The purpose is one and the same as that of our great Master and Leader, Jesus, who gave Himself that we might really and truly live. The desire of the writer is that he may so blend the truths of right living, that they may be like the new wine. They may stimulate the readers to newness of effort, so that they may make new progress, attaining greater heights of achievement, gain new happiness, be filled with new vigor for the tasks of life. The purpose is to portray the first principles of healthful living, so that every one who follows them may live the most efficient life which it is possible for him to live and that he may improve his environment daily, thus adding to his own joy in life and the joys of his fellows. The past of our lives may have been lived in a slipshod manner. This book will aim to show you how to pick up the loose ends, and make your life a blessing. You may be downhearted,

it will aim to cheer you. You may be losing out in business, it will aim to point the road to success. You may have actually lost your health, it will aim to point you to the only path to health. Read with an open mind, then act, and new life will come with new hope for the future.

F. M. WOOD, M. D.

209 S. State Street, Chicago.

CONTENTS

AIM OF THE BOOK—TO TEACH THE SCIENCE
OF RIGHT LIVING.

PREFACE

FOREWORD

Chapter I. What to Eat and How to Eat to Be
Healthy.

A. General Observations on Food.

B. Studies on Health Foods.

Chapter II. Health and Exercise.
Breathing, Calisthenics, Walking, Singing, Speak-
ing and Acting.

Chapter III. Bathing and Health.

Chapter IV. Sleeping and Health.

Chapter V. Thinking and Health.

Appendix. Health Food Recipes.

A Diet List of Health Foods.

CHAPTER I

PART ONE

WHAT TO EAT AND HOW TO EAT TO BE HEALTHY

PURE FOODS

The effort to produce pure foods has led us into an error. The aim to get rid of the hull of the wheat has destroyed its food value, by excluding the glutens and the hull, which contain the chemical substances necessary for its complete digestion. The manufacturer has but met the demand of the people, and this has given us the white breads of the household. White bread is pure and is wholesome, when taken in proper amounts, but it produces harm when taken alone, and to the exclusion of other breads. Pure food is needed. We must see that every article we eat be clean and unadulterated, but in so doing the future manufacturer must furnish us all the wholesome elements in his processed foods, or we will reject them. Package foods are convenient and less liable to contamination by contact with the bacteria-laden hands of the operator, and hence are sure to be clean. Wrapped bread, wrapped by hands covered by sterile cotton gloves, is clean bread, and we may eat

it with less danger of infection. But pure foods are not always healthful foods. Nor are those which tickle the palate and taste the best always the best for our food. The processed grains and flours are to blame for scurvy, pellagra and beri beri; for the processing has removed the chemical nutrients, necessary for their complete digestion and assimilation. (See study on bread at close of chapter.)

WHAT KIND OF BREAD MAY WE EAT?

We may eat white bread, but if we eat that alone, we will suffer with constipation and indigestion, due to stasis, and neuralgias, lumbago, rheumatism, will be assisted and aggravated by the eating. We may better eat the whole wheat bread, and the most wholesome type is that baked and eaten at home. Since this is true, and to encourage its realization, we offer here the recipe for a brown bread of great value.

HOME-MADE BROWN BREAD

To one and a half pints of equal parts tepid milk and water, add one heaping teaspoonful of salt and one-half cup of sugar. Add a tablespoonful of New Orleans molasses and half a teaspoonful of soda; stir in one-half pint of white bread sponge made from yeast and white flour; add whole wheat flour until it is almost too stiff to stir, put in tin tomato

cans from which the top rim has been removed by heat. Keep in a warm place, let it rise well (it may take about two hours) then bake in a moderate oven, and when done, wrap in a wet towel until cool. The bread comes from the cans in perfect cylinders. When filling the cans with the thick dough, they should not be filled more than half full.

HEALTHFUL LIVING

1. THE SEARCH FOR THE FOUNTAIN OF LIFE

The great heroes of mythology and history went in search for the fountain of life. We, too, like Ponce de Leon, follow that quest as soon as we begin to experience the ills of life which follow the indiscretions of youth. Much better had we tried to find out the relation of these indiscretions to our loss of health and vigor. Better still to look deeply into the facts of nature, heredity and environment, in their relation to our present status.

LIVING CLOSE TO NATURE

The departure from natural living has brought into our experience many new abnormalities, new diseases. Abnormal environment leads to degeneration. The animal, who has to struggle most with severe environment, coarse food and the extremes of wind, rain and sun, lives a healthy existence. There is a reason. The very struggle itself makes the animal strong to resist, and leaves it free from

many contacts and over crowding. The lesson from this for us to learn is, that we had best live as close to nature as possible and as far from many contacts with others of our own species as is possible. We have had many opportunities to learn right living from the past experiences of generations gone.

HEALTH BOOKS OF THE ANCIENTS AND MODERNS

Much has been written of value. We do well to consult both the writings of ancients and moderns in seeking the best for our instruction in right living. Great stress upon the influence of the mind has been the mainspring of much of that which has characterized the writings of moderns. The body must not be neglected. The literature of the Hindus lays first stress upon the essentials of body building. Heredity plays a part beyond our control. Our will may help control environment.

BODY BUILDING

Life-work demands a strong body. No one can build it for you, you must do it yourself. You cannot more surely crucify your life than by body neglect. By taking thought, you may make your body a fit place for a vigorous mind.

MIND BUILDING

The mind to live is the mind to live rightly. A clean, healthy mind is the reciprocal of a

healthy body. A good rule to follow is NEVER VIOLATE THE HIGHEST IMPULSE OF YOUR MIND. To state it differently, NEVER COMMIT AN ACT, FOR WHICH YOUR OWN MIND CONDEMNNS YOU. Thus you will build SELF CONTROL, AND A PURE, UNFETTERED MIND. One of the greatest aids to good health is, to think only good thoughts. How, then, may we attain all these: A sound body, a sound mind and a consequent happy existence? This, our future chapters will seek to tell

BREAD

Bread, eaten without effort in the making and getting, will ill nourish the eater. The effort must be carried even as far as the organs of mastication. "In the sweat of thy brow must thou eat thy bread," applies today, if we will eat and be healthy. This is why the Indian and the negro, who ate corn bread from corn ground between stones, which he per force must chew, was healthy and robust. The teeth of these aborigines were as perfect as their bodies, but under the easy food and almost no effort of modern life in houses, how the Indian and the negro died off like poisoned rats in a cellar. The reason is the lack of effort in the getting, the chewing and general living of the people today. The hulls of all the grains, the coarse corn meal, the coarse

barley, the coarse rye meal, is best for our bread.

MASTICATION

Combined with the sweating to get the bread, must come the use of the teeth vigorously to break up the food and mix it with enough saliva. We may drink water, milk and cereal coffee, to aid in this process. When we do this and do it vigorously, as a regular habit, we will preserve our teeth and cut dental decay to a minimum. Pyorrhoea is the product of two factors, the finely processed foods, which do not require mastication, and the abundant number of contacts with people who are infected, and who pass on micro-organisms, which readily fasten themselves upon teeth and gums, which we have long since ceased to use properly for chewing. An unused organ is a dying organ and rapidly degenerates. The dog who has to chew hard bone, never gets pyorrhoea, because he uses his teeth. He drives the blood, rich in oxygen into his gums, by vigorous use, this carries away the dead cells, helps to burn up the unfit, and supplies new nutriment to the cells, and keeps on building new ones and keeps in health the entire tooth structure. Nothing kills like stagnation. Stagnation in the mouth comes from disuse of the teeth. **USE YOUR TEETH, IF YOU WOULD KEEP THEM.**

A VARIETY OF BREADS IS VALUABLE

Variety is the spice of life. Good appetite is stimulated by variety. The cells of our bodies are satisfied best by a change. Barley, rye, corn, oatmeal and wheat breads are valuable, and are best made of the coarsest materials. Twice-baked bread in the form of toast and rusk or hard tack, is also valuable as a change which forces us to use the teeth. The old fashioned hoe-cake is worth much as a stimulator of both imagination and mastication.

CEREALS

Oatmeal is the king of cereals, rice should come next, but let it be unpolished, and cornmeal mush may well be mentioned as a close third in its value as a supper dish.

All these cereals are more palatable when eaten with cream, butter alone, or butter and milk and with sugar in moderation. The kind of sugar will be discussed in a succeeding paragraph. It is essential also that our cereals should contain the whole grain. The outer covering is just as essential here as in the breads. Wheat cereals must contain the whole berry, and not those which have been subjected to excessive heat over a long period. A porridge made from the graham flour direct, is much more healthful for growing children than all the processed cereals on the market.

The reason is plain; the porridge which is made from the whole berry contains the food, just as nature provides it, and the aim of the cooking is but to make it more palatable. When over-cooked the chemical arrangement of the atoms is broken down. It is no longer fit for food. Every process of nature in the whole universe vibrates with vital living force and vibrates in tune with all other living vital forces. Any effort on our part to disturb this arrangement results in disaster. In other words, we cannot improve upon nature. We may try to aid her and imitate her, and by so doing we are in tune with life's processes and may aid in directing those forces for our advantage. Constipation may be banished by the wise use of bread, cereals and normal body activities, which demand stress upon all the vital organs. This means activity of both muscle and mind.

FRUITS AND NUTS

Purposely, we have chosen to place fruits and nuts above meat in value as health producing foods, because they are more directly offered by nature as natural food. They are easy to obtain, and given to those who will work, which means activity, and this means burning up of waste products, oxygenation of tissues, assimilation of food and consequent health. A fruit orchard, a vegetable garden, is

God's stepping stone to perfect health. Along with pure food legislation, we must legislate in our great cities, that every man shall have space enough for both himself, his wife and his children to work in a garden. As life is now arranged, the poor man is deprived often of even eating the fruits and vegetables. Many a boy is strange to the taste of the apple, because he must buy them two for a nickle, and he hasn't the nickle. The life of the multitudes in the future great cities will depend upon the proper spacing of homesteads, so that the boys and girls may have a yard large enough, so that the sun may shine there and all kinds of vegetables may grow there. Here they may be kept off the streets and alleys, and be taught to work in the soil, raising fruits and vegetables which they may eat and keep their bodies healthy.

FRUITS

The apple, the cherry, the pear, the peach, the plum and the quince will grow in nearly every dooryard. Have you ever planted one, watched over it like you would a pet and kept it well watered, pruned and nourished it with well rotted manure? Have you seen it grow till it gave you back the first fruit in four years? Have you had it pour out its fruit in abundance, till you had enough to give your neighbors and friends? If you have, you then know the value of a tree to your own life and

health, and until you do, you have lost something both for yourself and for others. **No effort,—no life,—only death.** The people are dying today because of their being shut in doors, away from the soil, whence they may draw the life-giving fruit, through the life-enhancing effort of body and mind. Figs, oranges, bananas, prunes and dates may not be forgotten in our menu. The grape fruit is also a blessing, while the pineapple is a valuable aid to digestion.

Raw fruits are the best, if we are sure they are clean. We may cleanse them by using a very dilute solution of blue stone (copper sulphate) 1 to 10,000 in water. Rinse the fruit in this solution for five minutes, then wash in three changes of pure water. Cooked fruits are also very valuable, but they should not be overcooked, that is, they should not be heated above 150 degrees Fahrenheit, and not held at that heat for a long time, as excessive heat breaks down again the natural arrangement of the atoms of the molecules of the fruit juices, and defeats nature. A cooking thermometer is an essential of every kitchen equipment, and should be used to avoid overheating. The best way to cook dried-fruit is to cover it with water and let it simmer on the back of the stove, till swelled to natural size, then sweeten to taste and serve hot or cold, as may be desired. All

fruits are best eaten in the morning and at noon, but never at night, and are best served before meals, as they then do not increase the acidity of the stomach, but tend to check it—thus over-acidity may be avoided.

VEGETABLES AND FLOWERS

Flowers and vegetables grow well together, look well together, both on the table and in the open.

It is a great joy to work out of doors at all seasons, surrounded by the perfect tinted flowers, which appear at the different seasons. To rejoice in the bursting open of the crocus and tulip, to find the first violet and blood root, to see the spring beauty and the arbutus in their native woods. Then comes the dandelion. One may also surround his home garden with the early tame flowers like the tulip, the hyacinth, the heliotrope and the lily of the valley. Later come the sweet scented roses and the sweet pea, with the pansy, pink and nasturtium. Geraniums add bright color and the petunia bed is all aglow. Cannas and gladiolas add varied beauty, when found in appropriate places in the yard and garden. Utility and beauty are handmaidens as said by Socrates of old. They are not divorced in nature, we must not divorce them in life, else we lose. The vegetable garden may be garlanded with flowers. The edges of walks are beauti-

ful with tulips in early spring and with asters in the fall. Scarlet sage, with sweet-alyssum as its base, makes a beauty border. Dahlias, sunflowers and hollyhocks are splendid stalks for climbing beans. When the garden space is small, every inch must be in use. Rotation of vegetables must be practiced. There is much to tax both mind and body in managing the vegetable garden, so as to produce the most and handle it efficiently. We have adopted the dictum that to eat, one must exercise. The best of all exercise may be taken in the open air in the sunshine, where the lungs may be filled with fresh air, stimulating cell growth by the action of the chemical rays of the sun, sounding the death knell of bacteria, which keep us handicapped with their toxins. We must consider first, best methods of making the garden, then how to eat and what to eat of the vegetables grown.

HOW TO MAKE GARDEN

To make garden efficiently, it is often a good plan to watch a good seedsman make it, so as to adopt his best methods, and it is also fine to watch those who succeed best of your neighbors. The early vegetables taste the best, because of our long fast on canned ones, or hot house truck. Early onions are good eaten cooked like asparagus. We plant a bed of sets, enough for the whole family and to last

till chard comes, just as soon as the frost is out of the ground. Space may be dug for this purpose very early. It is fine to enrich it with hen manure from your own hen house. The manure is scattered over the surface to be dug, and dug in at least six or eight inches. The rows of sets are placed six to ten inches apart. When the purpose is to raise the onions till they are full size, it is well to have them 12 inches apart, so that they may be cultivated with the hand cultivator. This hand cultivator may best be of the type of a Planet Junior. This little plow makes the weeding and cultivating a pleasure. When the onions are planted to be eaten at once, while they are half grown, not over two inches through, they may be planted six inches apart in the rows, if the weed pulling about them is done by hand. Cultivation makes them grow very rapidly, and for this purpose the single tooth of the hand cultivator is used. This throws the earth both ways. It is also used in making the marks for the rows, when the onions are set. The earth should be finely pulverized on the top surface, with the hand rake, and the rows marked out, then the onions are set two inches apart in the row, for early eating, and four inches in the row for mature onions. It is a fine plan in Chicago, to plant seed onions later for the mature onions, pull out the crowding onions to eat like asparagus, and leave the onions four

inches apart in the row. These rows are made 12 to 14 inches apart, so that cultivation may be easily done. Peas may be planted a few days later than the onion, as soon as the ground is warmer. The best method is to plant them at least four to six inches deep in the row. The earlier they are planted the more shallow should be the row, if planted when the ground is warm the depth may be six inches, as they produce more peas when planted deeply. The rows are planted double, two rows together from four to six inches apart, then a space of 12 to 18 inches, according to the variety of the pea. Tall peas may be in double rows and even as far apart as 24 inches between double rows. Of all the varieties, the Nott's Excelsior appeals to us as the best. The Prosperity or Gradus pea is the best tall variety. Tree trimmings are splendid for the purpose of staking this variety. Lettuce and radishes may be planted at the same time as the sprouting of first weed seeds are seen in the garden earth. The big Boston head and the Simpson's black seeded early curled are standard varieties. The rows may be five inches apart, or they may be sown broadcast in a bed. In the case of the early curled lettuce, it is left in the bed till mature, but with the head varieties, they are transplanted in rows, and headed by covering them with newspaper caps or strawberry boxes, inverted over

each head. The early French breakfast and red turnip radish are standard. They are grown in rows six to eight inches apart, and thinned to prevent spindling, to at least an inch apart. Next comes the time of planting bush beans and corn. Both corn and lima beans may be started in the house in boxes about April 15th. They are grown till from two to three inches high and then transplanted. This helps to force the season, and gets earlier corn and limas by two weeks, than is usual from the home garden.

THE HOTBED

We very nearly forgot the hotbed. It would not do to be guilty of this in the Spring, for we must start to make it at the same time we make the onion bed. The bottom of the hotbed is covered with hen manure, then with steaming horse manure. The layer of hen manure is made about one inch thick, and the horse manure from 6 to 12 inches. This must be well packed by treading, and then covered with fine earth, four to six inches in depth. The bed is covered at once with the glass, and left to heat for two days, then planting may be begun. If the bed is large, early lettuce may be planted. Tomatoes, eggplant, early cabbage and celery may be planted as soon as the bed is warm. Later in April, aster and scarlet sage may be planted. For early flowers, pink

and pansy may be sown with the early cabbage. All these are best sown in rows, six inches apart. These plants will come on in a hurry, and should be given a little wetting daily. As the days grow warmer, it is well to leave off the glass in the sunny part of the day to make the plants hardy. As the season approaches for re-setting the plants out of doors, they may be urged forward by potting. For this purpose, the pot holding about a pint is the best. The pot is filled with soft fine earth, the plants are well wetted and a bunch of plants is loosened at the roots with the trowel, and removed to the ground beside the bed. Each plant is gently loosened and roots unbroken, transferred to the pot, set in firmly and watered. The potted plants are set in the shade for a day, and they will begin to grow at once. As soon as the tap root appears at the hole in the bottom of the pot, the plant is ready for transplanting, which may be done by gently tapping the pot, removing earth and all, and setting the plant in its new place in the garden. When the potting and planting is carried out after this fashion, the plant escapes wilting and goes on to rapid growth at once.

TOMATOES

The tomato is a splendid vegetable. It grows well in our northern gardens, between the frost seasons. It should be set as early in

May as danger of frost will permit. A frost comes often about the 15th of May, and one may need to protect rapidly growing plants with newspapers and gunny sacks, several times, until danger of frost is past. The plants are set at least four feet apart. The best way to prepare the ground, is to dig up the space fresh, and mark it out with the single tooth of the hand plow in rows which cross each other at the four feet intervals. At the crossings, the plants are set. The after care of the plants is important. They should be cultivated at least once a week, kept free from weeds, and as soon as the first blossoms appear, it is a good plan to begin to trim them. If the garden space is small, trimming and training the plant to a single stick is of advantage, as it keeps the fruit up off the ground, exposes it to the sun, and aids ripening.

The best way to trim them is to cut off all lower leaves, which turn yellow, and pinch off all buds and shoots, just above the last blossom which appears. This forces the sap into the single buds of the new cluster, hastens fruitage and prevents going to vines. The stakes are best about five feet in length and are driven into the ground, just outside the root of each plant. As soon as the plant shows a tendency to drop over on the ground, it is tied up to the stake with a stout string. It

may be necessary to tie them up twice during the season.

CORN

There are two varieties of corn which are becoming standard, the Golden Bantam and the Evergreen. Golden Bantam and Evergreen are planted in the box early, as soon as it is warm enough to avoid severe frost. They are set three in a hill three feet apart, or one in a hill, one foot apart. The cultivation must be intensive, as the aim is to keep a top mulch of loose soil always, so as to retain the moisture. Several plantings of Bantam and Evergreen should be made at two-week intervals, until the middle of July. The last planting will often mature in September, or early in October, and be found delicious. Evergreen gives you the corn with the bite on, with small cob, especially enjoyed by the children and grown-ups as well. The two varieties give a change and are well planted in the same garden. One may get rotation by planting the late plantings of corn and tomatoes between the early peas.

BEANS

The best bush-bean is the German black wax. It is planted about May first in drills two feet apart. This bean is the best snap bean, for it has no strings, and the flavor is especially fine, while the flesh is very tender.

It is a rapid grower and great producer. Two rows ten feet long will produce enough for a family of eight people for ten days. A valuable aid to this bean as a snap bean, is the long snake bean. It is a climber, and the pod is from six to eight inches long. The seed is brown. The plant is a vigorous grower, and a prolific producer. It may be set along the fence, and will produce a splendid yield there. The lima bean is an indispensable vegetable. When planted early in the house box, or in any old pan or pail, it starts to germinate at once, and grows very rapidly. It may be set out at the same time with the early corn and will produce by the third week in June. Later plantings may be made directly into the earth out of doors, but if depended upon alone, if the seed is planted in a cold or very wet time, it will almost invariably rot. The early box planting and transplanting prevents this catastrophe. The best plan is to use the fences for limas, or to set a fence of two inch mesh, chicken wire between posts in the garden, especially for limas. The single beans are set about twelve inches apart, and in warm weather, they begin to grow at once. One must be careful in setting the beans, when transplanting, not to injure the roots or the cotyledons, else the bean will not grow into a sturdy plant. Boston marrowfat beans are very large and fine for baking, they are best planted follow-

ing early corn or some other removable crop, like spinach or head lettuce. They may also follow peas. Plant them in hills eight to twelve inches apart, two in a hill. They are half climbers, and will produce heavily. They may be harvested just before frost. A splendid bean for boiling dry is the red bean. It is large and meaty, and serves as a pleasant change on the table. It is planted in rows late in May or early June. It may follow peas or head lettuce in mid June. The plants produce long pods of five to eight large red beans.

CABBAGE

Two varieties of cabbage may be planted, the early Drumhead, and the late Flat Dutch. The early ones come out of the hotbed with the early tomatoes. They are set in rows at least eighteen inches apart. The late cabbage is planted in the hotbed late in June, and is set in July. It may follow an early planting of corn, peas or beans. Early cabbage is eaten as slaw. Late cabbage may be buried and eaten as boiled cabbage and sourkraut.

CARROT

The carrot is hard to raise. It is full of sugar and is splendid in soups. The sowing should be early in June and in drills 12 to 18 inches apart. It should not be shaded, and should be cultivated freely.

PARSNIP

Another sweet vegetable, full of sugar is the parsnip. They are splendid in the late winter and spring, as a forerunner of what the garden will soon do. Plant them in June in drills, four inches between plants, dropping a single seed into a small hole made by finger or stick. Dig them before the frost is out of the ground in January and February.

BEET

Two varieties of beet will serve us well. The early Egyptian red and the early Blood Turnip. They are both full of sugar, and served hot with butter are very wholesome. Plant them in drills, eight inches apart between rows. Sow them moderately thick, as they can be used early for greens. When the plants begin to show a root half an inch through, begin to thin them. Cut off the tops half way and cook them in a milk sauce like asparagus.

CHARD AND SPINACH

Chard and spinach may both be planted at the same time with the beet, about the last week in May, and will begin to grow at once. Exceptionally we may plant them the second week in May and get them to start, if the days are warm and a warm shower follows the planting. Chard is the best of the two, for it may be kept growing all season and frequent

cuttings made, while but one cutting of spinach may be made. Of all the greens which come on the table early and late in cream sauce, chard is the best.

MELONS

Melons are difficult to raise in this region of early and late frosts, on the hard cakey black muck surrounding Chicago, unless special methods are employed to force them to early maturity. Musk mellons grow the best. The Rocky Ford is standard, and the Osage is a close second, considered first by some, but it does not mature as well as the former. The seed may be planted early with cabbage in the hot-bed. May first will bring the planting time out in the open when it is warm, if one plants the seeds in a box in the house. Two rows are planted by finger mark trenches made in fine earth across the box. The earth had best be six inches deep, and the sprouting may be done near a stove or radiator. When the plants are ready for the third leaf to open they may be transplanted, but with care. The earth should be well wetted about them with a sprinkler, and they should be loosened with the trowel, having care not to break any little rootlets, and to remove as much earth with each root as possible. They are set four in a hill. The hill is prepared by digging a hole a foot deep in the loose soil. Fill in with well rotted horse or

hen manure, cover the manure with earth for eight to ten inches, fine the earth well on top, make the holes for the plants, and set them in water, covering the top with two inches of dry earth, so as to keep the moisture from too rapid evaporation. The plants should be set in the evening, and kept shaded the next day from the direct rays of the sun. Daily watering each evening will help the plants along. As soon as the second setting of blossoms come, it is well to begin to pinch the main shoots of the vine at the tips, so as to force the side shoots. Each side shoot may also be tipped as soon as a melon is seen well formed. As soon as this melon is seen to be a good one, which will mature, it is well to pinch off all shoots, which may draw sap to it, and force this melon to early maturity. The same methods may be employed in raising watermelons, but they must have plenty of sunlight, and grow best on a sandy soil. The Kleckley's Sweet is the best garden melon. The small Honey Dew melon is also a very sweet, small garden favorite.

CELERY

Celery may be grown during the entire season. First planting in the hotbed, it grows rapidly, and the big stalks may be cut to flavor soups, early in the season. These plants will grow large by July and may be planted early

in July between the first planting of corn, topping the corn in order to let the sun's rays into the plants. As soon as the ears are pulled, the cornstalks may be removed at once. The trenches for the celery may be dug either deep or shallow, according as we may wish to hill up high or not, and this may also depend on the variety of celery chosen. Two varieties grow well in this climate; the White Plume, which grows tall, with large stalks, and the sweet golden heart celery. This variety is very sweet and not so large and tall. Let the plants grow, filling in about them each week with fresh earth, till they are at least two to three inches in diameter. It may then be bleached. This may be easily accomplished by digging out the entire plant, three or four at a time, sufficient for one meal, laying them flat in a trench and covering all but the very tips of the stalks, with moist earth, and wetting the roots. They will bleach in five to eight days, and are fit for the table then, or the same thing may be done late in the fall by placing them in boxes, covering the roots with earth and transferring the boxes to the basement for the winter.

SMALL FRUITS

STRAWBERRIES

The strawberry is a splendid fruit for experimental work, even in a small garden. I

have grown them in the shade of a walnut tree and of a row of lilac bushes, for several years, in a space of twenty feet by twelve; received forty quarts of fine berries last year. This was accomplished the spring following the previous July, by setting the bed from potted plants. The potting was done in small three-inch pots, by potting the runners. The runner is potted by pressing the pot full of fine earth, and setting the root at the runner into the pot. The plant begins to grow vigorously, provided there are seasonable showers, or one may help out by using the hose and sprinkler. The root fills the pot and begins to protrude from the bottom of the pot. After the plant has three strong leaves, the runner is cut free from the parent plant. It is best to pot enough runners to fill a row at one time, then when setting time comes, they may be all set at once. These potted plants may be set and will begin to grow without wilting and will begin to produce runners in six weeks. The runners should be cut back as often as they grow, so as to make strong plants for the producing of many berries during the next spring. Such plants will bear from one to three pints of large berries, and at times two quarts of splendid berries the first season. This is a great boon to the small gardener, for he may make a new bed every year, using old space for other vegetables, and still have berries every year.

RASPBERRIES

The red raspberry will grow well when the new shoots which come out along the roots of the old plants are dug and reset. They will bear well the second season, and produce splendid large red fruit. They are best set along the rear line of the garden lot, or near the back fence.

GRAPES

A small garden is not complete without the grape. There are many fine varieties that grow well as garden specialties. My choice of standards would be the Concord, Niagara and Delaware. For sweetness and splendid flavor among the purple grapes there are two varieties which will delight the palate of all who love grapes. They are Lindley and Pocklington. Both are vigorous growers and produce fine, large bunches. The Pocklington is the smaller, but its juice is like nectar. The Lindley produces more grapes and more vine, while the individual grapes are large and full of juice of rich flavor. The Brighton is another fine, large variety of black grape. Moore's Early should also be planted, as it comes before Concord and all others; it will give variety to the miniature vineyard. Agawam is also worthy of a trial. Choose the side of the garden away from the south, so as not to shade too much, and face the line of vines so that it gets the

south sun. That is, have the vine row on the north edge of the garden, if this space is small. The vines are set from six to ten feet apart, in the row. In case an arbor is planned, it is well to set them seven feet, especially Lindley, Concord and Niagara, as they produce much vine. Dig the hole wide enough to allow all roots to flatten out on the bottom of the hole without lapping back, and dig it from eighteen inches to two feet deep. On the bottom place tin cans, old glass, old iron and bricks, stone or mortar; this gives the roots a chance to spread out and keeps the earth from packing too tightly about them. Now add some well-rotted manure or loam—about six inches—then earth to the covering of all roots, packing with the feet. Then cover with all the earth left, making a basin about the stalk to receive water and rain to start the plant well. Now the work is just begun. The grape needs much attention. Early in March, when the season is warm, the buds will begin to come. If your vines are three years old, when set, it is a good plan to break off all but four strong buds, if you intend to prevent much vining and prune for fruit. Much vine means small bunches and also many bunches. The vine dressers of Michigan trim back the main shoot to two strong buds, which are about four or five feet from the ground, and leave from five to ten buds on each shoot. In case one wishes to trim for stumpies, and get

very large bunches and fruit. The vine is trimmed back each year to 18 inches in height, leaving two shoots from its crown to produce the bunches, each shoot being allowed from three to five buds. It is a good plan to try this with a vine which is spindling. The stalk grows to be from two to six inches in diameter and even larger, while the bunches may become 18 to 24 inches long or even much larger. The vines should be trimmed back each fall to the main shoots, which are to be used for fruit bearing. The cuttings may be used for replanting, by setting them in the ground, for the length of two buds, in the fall, after all leaves have fallen. The next spring they will bud and begin to grow. The following season they may be reset as new vines and will produce some grapes the third season. During the growing season, if the vines produce many shoots, it is well to pinch off the tips, just beyond the rows of bunches, as this forces the sap into the grapes. New fruit runners may be made more stocky also by tipping them after they have produced three or five buds. This is an especially valuable thing to do when the vines are long upon an arbor, as it increases the fruitage the next season. The care of the fruit is also some job, if one cares to have it perfect. As soon as the grapes are as large as peas, paper bags are purchased, of size to fit the bunches. These are tied on with string.

They serve to keep ants, worms, bugs and bees from infecting the fruit. They also prevent mould and rot for the same reason. When the grapes are ripe in the fall, the bunches which have been bagged come out fresh, with bunches and individual grapes as perfect as nature can make them. When left on the vines till the first frost, the grape sugar is formed, and they will taste as sweet as honey. Gather them in the early September and October morning, when they are cold, then they will delight your palate as at no other time.

PUMPKINS

I almost forgot the pumpkins. No garden is perfect without them. Plant them so they will grow on the back fence. A fifty-foot fence will produce a dozen pumpkins. Plant the small-sized golden pie pumpkin. When you have large space it is well to plant them late in June or about July first, in the corn. When the corn is cut, they will keep on growing. Plant two in a hill, hills ten feet apart.

CUCUMBERS

The cucumber is prized by many and is not difficult to grow. It is planted like other melons. It will grow well along the fence row, where it may be trained up for three feet, and it is fine fun to go along the fence of a morning and pick off the big fellows. The long green is the favorite table variety. They must be

picked fresh, cut at once, soaked in ice cold salt water and eaten in sterile pure vinegar, diluted freely with water. Sugar may be eaten with them, then they serve well as a substitute for musk melon.

POTATOES

When the garden space is large enough, early potatoes are a joy and a source of much good exercise. The planting is a good job. The seed to be chosen is almost numberless as to variety. Early Ohio, Cobbler and June Triumphs are the fine ones for early planting. When there is enough space to spare, late varieties may be planted. The beauty of Hebron will serve you well for size and splendid flavor, while it is very mealy when baked and mashed.

The planting is done as soon as the ground is warm. The largest potatoes are selected and cut so that there are at least two eyes to the cut. As they are cut they are dropped into a pail of ashes, cut side down. This prevents mould and rot from destroying the seed. It is also well to place some ashes in each hill, when the ground is very heavy and packs easily, as this will also save the seed from rotting and keeps away insects and worms. The hills are run in rows. The best way is to run the plow deep enough to cover the potato at least six inches. When the spring is back-

ward and there is danger of frost the rows may be hilled over four inches more, as soon as the potatoes begin to appear above the ground. Hoeing and cultivating may best be done weekly, so as to keep down weeds and prevent packing. As soon as first blossoms appear, it is well to begin hilling higher, and to keep the earth moving about the plants, so that the seed runners may spread out beneath the soil. It is fine to have the earth about them as fine as ashes, so that there can be no packing. This helps to increase the yield, by permitting as many small potatoes to form as the plant can bear, but if there is packing about the root, the runners will not spread out and no new buds will form. Grappling for early big potatoes, the first week in June is fine fun. The only way to do it is with the bare hands, and the soil about the hill must be as fine as ashes, so as to make this easy, and not to break off the little ones. This is done with the Cobblers and Early Ohios and other early varieties. The potatoes thus found are fine, cooked with the first mess of early peas. When so eaten they must be well scraped of their outer skin, else they will cause diarrhoea, from the effect of the toxic alkaloid in the skin.

EGG PLANT

Eggplant is difficult to grow and to induce to bear well. The plants are set in the sunniest

best soil of the garden, and must be fed with hen manure or sheep dung water to force them to bear well. They are set three feet apart in the row and will produce five to seven eggs to the plant.

SQUASH AND MALT MARROW

Squash and malt marrow are both like pumpkin and may be grown on the ground or fence. They are good either stewed or fried, as a substitute for eggplant, and stewed like turnips.

GROUND CHERRY OR POD TOMATO

The domesticated ground cherry is neglected by many gardeners, who do not know its value. It grows like the tomato, except for its little gauzy cap, and when dead ripe, just before frost, it is pleasant to eat fresh, but when cooked in preserves it is like honey, and cannot be beaten as a table delicacy. Considerable space has been given to the detailing of the best methods of growing these varieties of vegetables, for the benefits derived directly in the exercise obtained in the garden work necessary in their successful cultivation, and the direct stimulation of normal nutrition by their consumption as food.

HOW TO COOK AND PREPARE VEGETABLES

The onion is best eaten after stewing. If eaten raw it is difficult to digest and may pro-

duce indigestion. Stewed onions are very palatable and aid in nutrition. They should be cooked until tender and then creamed. The onion alkaloid is good also as a sleep producer.

LETTUCE

Lettuce is another sleep producer. It is best eaten either with sugar alone, or with a very dilute vinegar. When home grown lettuce is eaten, it should be cleaned leaf by leaf in running water to remove bugs, worms and grit. When the lettuce is purchased in the open market, subject to street dust, it is surely contaminated and should be soaked in very dilute copper sulphate solution, 1 to 10,000. This is a pale blue solution made in quantity by adding a teaspoonful of blue vitriol to one gallon of water. Approximately a crystal the size of a lima bean to the quart of water. The fresh vegetables which are suspected are immersed in this solution for ten minutes, then rinsed thoroughly in running water, till no taste of copper can be detected. They are then ready to be eaten, and will be free from danger of causing infection by any of the intestinal bacteria. All the succulent vegetables may be thus treated when they are suspected. Celery, cabbage, radishes, even apples and other fresh fruits, eaten out of hand, may be so treated.

Peas and beans are especially valuable as supplying the necessary protein or muscle-

building foods. They are rich in protein, and take the place of meat. The early peas are best stewed with toast or new potatoes and creamed. To be most nutritious they must not be heated over 150 degrees and not over five minutes at that heat, as it destroys the vitamins. Lima beans are best cooked fresh from the pods, but a very good substitute are dried limas.

CORN

Corn is best on the cob, and not over heated. The outer surface or skin of the grains should be tender, so as not to destroy its nutritive value. When it is cut from the cob, the tendency is to overcook and overheat it. This is the reason canned corn is of so little food value.

TOMATOES

Acid fruits and vegetables may reduce the calcium content of the blood and make it more fluid. They should not be eaten to excess, and are best eaten in the morning or by noon. This is especially true of cooked tomatoes. When eaten before the meal they help to close the little acid glands of the stomach and do no harm, but act well to aid in digestion by stimulating the appetite. They should not be eaten after the meal or at its close, but at the beginning of the meal. Raw tomatoes, sliced are the best; cooking does not improve them, as it

destroys the chemical vitamins beneath the skin.

CHARD AND SPINACH

BEETS, CABBAGE, TURNIPS AND CARROTS

Vegetables full of cellulose act to stimulate the bowels and are the best stimulant of normal intestinal digestion. They should take the place of all pills, tablets and medicines, which are used to move the bowels. Beets are the most pleasant of the three root vegetables, for they are sweet. Boiled till tender, sliced and buttered, they are a splendid source of sugar and starch. The man who works hard in the hot sun will find them a great source of quick energy. Cabbage should not be cooked until red, but only until tender, for if overcooked it is very hard to digest. Coldslaw is excellent as an intestinal stimulant. Turnips and carrots will furnish variety of similar food, for those who like them. Chard and Spinach are excellent purveyors of iron to the blood and are full of vitamins. The caution not to overcook holds for them also. Cooked until tender and served in puree or in cream sauce, they are the delight of the vegetarian and the source of much energy.

NUTS

A walnut tree is a beautiful tree. It may be grown in any dooryard, and yet how few there are to be seen in our great cities. The

nut itself is the richest of all, in oil and concentrated nutriment. It must be eaten with circumspection, else its very richness will cause sore mouth and indigestion, but eaten in moderation, it is a valuable nut to the home. The hickory nut tree is almost never seen in our home door yards, because it is difficult to keep growing there. The tame chestnut is easier to grow and must be more widely grown. This nut is valuable, but not as rich as the former. The English walnut may be budded upon the black walnut tree, in the yard, and English walnuts obtained. We may obtain nuts of all kinds in the open market. Pecans, brazil nuts, almonds and hazelnuts will add variety sufficient to satisfy the appetite of the most fastidious, and we may enjoy them all, so that we thus avoid the overeating of flesh and meats, thus over-acidity may be avoided.

PART TWO

STUDIES ON HEALTH FOODS

If I should take a text from the Holy Word of God, I could mention several. These two will perhaps apply best: (1) Your body is the temple of the Holy Spirit. (2) He that defiles God's temple, him will God destroy.

These bodies of ours, your body, my body, are they fit for God's temple? How long are you able to keep God dwelling within you? Does He go and come, or are you fit all the time? Say, how much can God do with you with your present physical body, in its present condition? Are you worn out? Are you degenerating rapidly in early youth? Are you worn out at thirty-five or fifty? There's a reason. I am writing to tell it, if you will but read carefully.

I am writing in the interest first, of the babes still unborn. I am writing in the interest of the mothers who bear these babies; of the fathers who are potential. I write in the interest of the babes at the breast. I want health protection for these innocents, who die before they are born, because of under-nourished parents, of diseased parents. I want

health prevention of idiots, imbeciles and cripples, who are born because of under-nourished parents, who have to live on denatured foods. Denatured foods are foods which have been robbed of their essential food values by taking from them part of their chemical constituents by their process of manufacture.

BREAD

Bread is known the world over as the staff of life, but I am writing to tell you that the men of this generation are living on a broken staff. The present bread we eat is a broken staff because it is starch alone. From the white flour in its manufacture have been taken all the chemicals of the outer coat of the wheat, which are necessary for the perfect digestion and assimilation of the bread. Nothing but starch, which is carbon and water, is left. This clogs the human furnace and will not burn or be oxidized properly without the presence of the alkalies in the outer coat of the wheat. These alkalies act as go-betweens, or assume the form of colloids in the system, and perfect assimilation of the carbon forming starch is impossible without them. Not only this is true, but these alkalies are essential for the formation of bone and teeth and a blood stream itself, which must be alkaline to prevent the entrance of disease producing bacteria. The baby can have no bone and will have rickets,

if these alkalies, calcium, potassium and magnesium are taken from the bread which feeds the father and the mother. The baby will not erupt his teeth, and the teeth of both mother and father will begin to decay in their teens, because they are eating bread which contains no alkalies.

Other chemical elements are lost also in our refined methods of milling and producing the beautiful snow white flour. Phosphorus and sulphur, muscle, hair, nails, nerves, and even the skin are kept in health by these chemicals and they are there, just as the Maker put them there and for that especial purpose, to feed these delicate cells, which have been fed on these elements for countless eons of their biologic existence. Why try to improve upon Nature? Why try to rob God and man? Why cause the people to die? Why let the whole race deteriorate by denaturing the bread? England, France and Germany are now awake on this problem and have solved it quickly, on account of the emergencies of the war. Health bread alone is lawful there. We must make health-bread alone lawful here. What is health bread? Whole grain bread of whatever kind you like, is health bread. How can I get it? It is difficult, but it can be done by purchasing the grain from the farmer and a small mill run by a motor, and grind the grain yourself. Whole wheat, whole corn and whole rye

can be ground in your mill for the purpose of making breads.

Cracked wheat can be made as a splendid alternating cereal for oatmeal.

CEREALS

This opens up the subject of cereals. This will be of especial interest to you since you all like them for breakfast. Oatmeal is the king of cereals. It is king because it has been the one cereal that has been least denatured of all, and it contains all the alkalies essential to good bone, muscle and blood. Whole wheat cereal comes next in point of value and is made by cracking the wheat, passing it once through your mill.

The cooking of these two cereals and of whole rice is best done over night in the fireless cooker. Whole rice is an excellent substitute for meat and is brown, not white, like the polished rice, which you buy at the stores. Such white rice has been denatured by polishing off the outer coat, and produces neuritis when taken as an exclusive diet. This was proven by experiments made upon pigeons, after an epidemic of polyneuritis now called beri-beri in the Philippines. Pigeons fed exclusively on white (polished) rice, developed symptoms of lameness, then loss of power in feet and legs, then final inability to walk, then symptoms of starvation.

A change of the food to whole (unpolished) rice, caused a recession of these symptoms and the recovery of the pigeons. The same plan among those affected among the natives and Americans stopped the epidemic of beri-beri. Polyneuritis, pellagra and neuritis are most frequently due to a deficiency in those alkali salts of the vegetables, fruits and whole grains, which are lost to the people through loss of these articles in our diet.

ACIDOSIS

How may we avoid the dangers of acidosis, which come from the loss of these essential alkalies in our foods? What is acidosis? Acidosis is an acid condition of the system including the blood, the lymph, the cells and the tissues. This over-acidity hardens the cells, the membranes and the coats of the arteries, making them brittle and predisposes to hemorrhage and infection. The death of cells takes place rapidly and easily and the various infecting germs at once begin their work.

HOW TO AVOID INFECTION OR HOW TO BE IMMUNE

To be susceptible to infection is an abnormal condition, brought on by abnormal environment in housing, food, air or drink. To be resistant to infection and hence to be immune is the normal condition due to normal environment in food, air and drink.

When one is continually subject to, or harassed by infection, he can rest assured that there is some flaw in his environment. The most common flaw is the lack of vegetables, and along with that, an excess of meat protein in the diet. This latter is the result of the attempt of the system to gain its alkalies from the meat. This is an unwise way in which to supply these alkalies in the first place, because they come second-hand, through the animals which have found these alkalies in their grain and green foods and stored them in the proportions, which nourish properly their own kinds of cells, but not in the proportions needed for human cells.

This places too much stress on the human engine. It must break down and oxidize a complex meat proteid, get rid of certain toxic amido acids, which are very difficult to oxidize, and the result is often an incomplete digestion and a resultant hyperacidity, or the very acidosis, which we are trying to avoid, when the use of the vegetables direct would avoid all this.

VEGETABLES

This brings us to the solution of the problem of avoiding acidosis, of preventing infection, and of being immune to invading germs.

The vegetables and whole grains contain all the normal food and salts of alkalies needed

to keep our cells in health and they are present in the form which is needed by the cells.

It is the form essential and to which these cells have become used in assimilation and digestion throughout all the stages of their biologic history. It is the departure from the normal which causes trouble. We need to keep near the simple, and away from the complex. The fresh vegetables are the best and the easiest to assimilate and digest. Some kind of green, fresh vegetable should be present in every meal. Spinach and lettuce are the best, celery the next and cabbage next. If indigestion is present, these will help to correct it.

Cooked vegetables come next in value to the fresh vegetables in maintaining normal nutrition. The juices of the vegetable should all be retained when they are cooked, else we lose the essential earth salts when we pour off the water.

The best way to cook them is to cream them with all their juices. The potato, both sweet and white, is best baked, scalding them before placing in the oven so that the outer shell will peel easily, leaving the under browned coat, which contains the alkali salts, which are so valuable to us in body building.

THE FRUITS

Absolutely essential to life and health are the fruits. They lend variety and pleasure to

eating. They are best eaten early in the day, so as to provide quickly those alkali citrates, which will balance the protein acids from the disintegrations of cells, which come from the broken-down cells of the previous day's activities.

Apples, pears, oranges and grapefruit will help to balance harmful acids when taken at breakfast. Constipation is the direct resultant of the attempt of the intestines to throw off, excrete the acids of the system. These acids harden the mucous lining of the gastro-intestinal tract and coagulate its contents. This makes the condition of constipation. We relieve this perfectly by the return to Nature's fresh foods, whole grain breads, fresh vegetables and fruits. The citrus fruits, especially oranges and grapefruit, are very rich in the citrates of the alkalies, calcium, sodium, magnesium and potassium.* But these citrates are very easily oxidized in the stomach, liberating these alkalies in their pure state. They at once begin to be absorbed and to neutralize the waste acids and provide the needed alkalies for the bone and body fluids. Iron is present in nearly all the common vegetables, especially in spinach. This one salt is absolutely essential to our life, in order that the blood cells may carry oxygen to all the tissues for aiding in burning the carbon given in all the starchy foods. The baked apple, eaten at noon, will

*See Table VI in the Appendix.

balance the acids of a large slice of beef, but no alkalies will be left to balance the waste acids of the system. Pears eaten for supper will balance the acids of the cold meat, but none will be left to balance the meat acids eaten early in the day. It will be seen from this how essential the fruits are in our diet, and what a handicap are the meats.

DRIED FRUITS AND VEGETABLES

Fresh fruits and vegetables are best. Dried fruits of commerce are distinctly harmful, because bleached with sulphur-fumes and acted upon by sulphites. These include dried apples, peaches, pears, apricots, nectarines, etc. Such fruits are harmful, for when they are soaked in water there is formed a small quantity of sulphuric acid with each portion of fruit. This is the basis of so much acidosis. The presence of this dilute acid when the fruit is taken as food, neutralizes all the alkali salts of the fruits, and robs the system of their beneficial action.

A NEW PROCESS OF DRYING FRUITS AND VEGETABLES

There is a new process of drying fruits and vegetables which leaves them in their natural state.

This process forces oxygen through the vegetable or fruit particles, while the hydrogen and water is being removed. No chemicals

whatever are used in the process. The machine for this purpose was invented by Mr. Charlie E. Mark, of Chicago, and is now becoming a very valuable asset in the progress of the health and life of the world.

With this machine vegetables and fruits of all kinds have been dried and permeated with oxygen so perfectly that they have lost none of their food value in the open air, for at least $3\frac{1}{2}$ years without deterioration, moulding, or contamination, and indications are they will keep indefinitely. One hundred and twenty-three materials thus far have been dried and kept.

A vegetable soup from vegetables three years old is just as fresh and of the same natural taste as if made from fresh vegetables. The average family can be fed on vegetable soup of first quality for ten cents. Apple sauce from apples dried two years is of the same delectable flavor as that made from prime, fresh apples.

Meat, dried and powdered, after two years, is fresh and uncontaminated and will make an appetizing bouillon in 30 minutes. Beefsteak in whole steaks can be dried and will keep in the same way, and may be cooked and served, and is of the same food value as fresh meat.

Potatoes—sweet and white, beets, carrots, onions, spinach, parsnips, apples, pears, peaches, raisins, prunes, figs, cocoanut, cab-

bage, beans, peas, celery, parsley and many more of these food essentials have been thus dried and preserved, and kept in excellent healthful food condition for three years, and indications are they will remain so.

These life-saving foods need no longer be wasted. They may be turned into dried foods for future consumption. They offer us the solution of life and health preservation for all future generations, and of the saving of the lives of countless millions who lose their lives because of improper foods.

This work must be extended by placing these machines in every city and farm community, so as to save the waste foods and materials and put them in dry form, for the use of the millions, and at a cost which shall be within the reach of their small means.

Philanthropists will see to it that this work is extended by placing this process of drying foods within the reach of all people. This may be done now, through the Illinois Sales Company of Chicago. "Why Waste?" is the motto of this company. The first letter of the names of the three men who are behind this philanthropy spells "W-H-Y?" They propose to answer to the people "why," by stopping the waste and feeding that waste to the poor and starving of the world. The Government has recognized the valuable work thus begun.

This is work for the life of the people, and it must be by and for all the people. It is the most salutary work thus far begun to conserve the health and life of the whole race, and prevent death from loss of proper foods, which breeds infection and disease.

THE SWEETS—SUGAR AND CANDY

We are a nation of sweet eaters and of poor teeth, and there is a reason.

Natural sweets are harmless and essential to the health of the individual.

Denatured sweets are a menace and the direct cause of decalcification and early decay of the teeth. Natural sweets contain the carbon which burns in the chemistry of the body, keeps us warm and makes possible the chemical reactions necessary to the life of all cells which require carbon in this combustion so essential to muscular action. All the starch which comes to us in vegetables and grain breads must be transformed in our bodies to **muscle-sugar** (Woodism) which is used in this combustion process in the muscles and all the organs. Natural sweets when taken, save our cells the work of transforming starch into sugar, for they are assimilated at once, as soon as they are eaten, and at once restore tired cells and vigor for renewed work.

Our most valuable natural sweets are honey, maple molasses, maple sugar and light

brown sugar. Barbadoes molasses and Sorghum are both natural sweets. **What do we mean by natural sweets?** We mean those sweets which come direct from nature in their natural form, from which none of the natural alkalies have been removed.

Denatured sweets are in constant use in every household, by every member of every household throughout the world, and they contribute largely to the rapid deterioration of this generation, because of the alkali salts which are taken from them in the process of manufacture. Cane sugar syrup is treated four times with sulphuric acid fumes before the process of crystallizing all the commercially profitable sugar is obtained from it, and the housewife gets the black strap molasses which is left after this process has been carried through.

The pure cane sugar loses its alkalies in this bleaching process, through the action of the sulphuric acid fumes; it has, therefore, a great affinity for alkalies in its purified or bleached form, when taken daily as a food; for, as soon as it is eaten, it begins to take up alkalies from the blood and the cells, thus increasing the tendency to acidosis, which it would naturally prevent if taken in its natural form.

Light brown sugar No. 11, has not been so bleached and is the least harmful of all com-

mercial sugars. New Orleans molasses of pure type has been lost to the people by the new process of bleaching with sulphites, in order to give it a lighter color. Barbadoes molasses has not been so bleached, and contains all the natural alkalies.

Honey contains the natural alkali salts which are gathered by the bees from the nectar of all the flowers. It is the most delectable and least harmful of all sweets. Maple sugar molasses is the pure evaporated sap of the maple tree and is a valuable and harmless sweet. Maple sugar in lump is as valuable as candy.

The Black Strap molasses is the end product of the sugar refinery and contains the sulphites and glucose and overheated carbonized sugars remaining, after all the good sugar has been removed, by four distilling and bleaching processes. It is distinctly harmful as a food, when used by the housewife in making gingerbread, or the baker in making gingersnaps, or the candy man to make taffy. It is like giving poison to our children. It might be said to be the most harmful, denatured, acid-forming sugar on the market.

CANDY

Most candies of commerce are made from denatured sugar and are harmful because they produce acidosis by causing decalcification. How can we help our children to avoid this

calamity, which makes them subject to infection and rots their teeth?

This may be done by substituting natural sweets for the denatured product. Candy should be made at home and eaten after each meal, not between meals, for then it destroys the appetite. It may be eaten between meals for one purpose only, to restore one's vitality as quick nourishment. For this purpose it is distinctly valuable for men under great physical stress, such as soldiers on the march and in battle, and for athletes in a game or contest.

Children may well be given natural sweets, after each meal, so as to cure the candy habit. Candies made at home of honey, light brown sugar No. 11, and Barbadoes molasses, satisfy every need of the system, and for quick carbon-forming food are essential to the health of these growing youngsters.

Preserves of the natural fruits sweetened with natural sugar, will also provide a very excellent source for the children's sugar.

There is one other source of natural sugar, which has not come into general use as yet, but which is destined to become very valuable to the people in the near future, and that is the Mark Dryer Process of drying and bleaching cane sugar.

This process dries the crystals of the pure cane without removing any of the natural alkalies, which are essential to the perfect as-

similation of the sugar. The sugar is also bleached beautifully white by the substitution of oxygen for the hydrogen of its watery content, and hence the sugar will keep indefinitely without fermentation or contamination, and will be as wholesome ten years from the time when it is dried by this process as it is the day it comes from the drier.

Such sugar is the purest and most wholesome and palatable of all the sugars thus far produced.

DRINK

One of the most important ways of taking nourishment is through drink. Of all the most important and best forms of liquid nourishment we place soup at the head of the list, and at the head of the list of soups in nutrient value, we recognize vegetable soup as the best.

The reason is plain. Vegetables contain all the essential salts which maintain life, and no deleterious salts or colloids.

Celery, bean, corn, potato, and mixed vegetable soups are fine as quick restorers of vigor, and constitute the best tonics for the sick and convalescing.

Next in nutrient value to soups will come milk. Valuable chiefly because of its alkalies, fats and protein.

Next to milk we place water itself, not having nutrient value, but a splendid stimulant of life's processes, pure water is essential. We

need it only when thirsty and should not force it down under the mistaken notion that we are using it as a medicine.

Certified cream is of splendid value as a food and is well substituted for any syrup of hydrophosphites, codliver oil or any other so-called tissue builder; for real cream will build tissue faster and with less expense than any manufactured tonic.

Postum Cereal is a valuable food drink derived from a variety of roasted, wholesome grains. Cocoa is made from the ground cocoa-bean without refining, is acid forming, but is the least objectionable of the three drinks, tea and coffee and cocoa, which are stimulants. We do not recommend tea or coffee because of their contained thein and caffeine, habit-forming drugs, and harmful stimulants. They over-tax the circulatory apparatus and over-stimulate the kidneys.

The fruit juices when combined with water are valuable in that they contain the alkalies in a very palatable form. Orange, lemon, grape and grapefruit juices are the best of these juices.

The various milk modifications are also pleasant and valuable food drinks. Kazol, Koumis, Bulgarian buttermilk and whey are all valuable. The various waters will be found of value: Sprudel, Appolinaris and Kalak are well used as active alkalizers after dinners of

meats and acid-forming foods. Barley water, toast, oatmeal and rice water will also serve to furnish liquid nourishment in palatable form, which may be quickly prepared.

Cider is another valuable drink, which contains much of food value and laxative, as well as diuretic qualities.

Alcoholic liquors of all kinds will find no place in the dietary of those who will keep the body and all its organs in top-notch efficiency.

MEATS

Meats have their place in the dietary of humans, but their place is small. The average man eats too much meat, and by so doing he clogs his whole system, burdens his excretory organs, the bowels and the kidneys, invites stagnation and predisposes to infection and disease.

Meat should be eaten sparingly, if eaten at all, and should be well-balanced with foods containing alkalies, for the reason that they are acid-forming. They contain alkalies, but only enough to make each cell balanced for the animal from which the flesh came, not balanced at all for the human cell. Cow flesh is built for the metabolism of the cow, pig for the pig, chicken for the chicken. When we eat this flesh we must break it down and rebalance it for our own needs. In order to do this we must build in more of the vegetable alkalies, else we

will not have a neutral condition, but rather, a condition of hyperacidity, or acidosis, which has been previously described in this series of studies.

To illustrate: It has been proven by careful feeding experiments upon pigeons, chickens, pigs, and cattle, that none of them can stand much meat protein from other animals. In the case of poultry, I have proven by careful tests on my own birds that the ideal meat protein (beef, pork or fish), for chickens is one-eighth the mixture. More than this brings on diarrhoea in fowls.

Men and women of this generation make meat at least one-third or half their dietary. This brings on rapid degenerations of all the organs, because it places upon them the work of splitting, breaking down and digesting this excessive load of foreign material. Hence, they are unable to do it. They only partly split it, and in this form it is toxic. It poisons the blood stream, causes death of the cells, arterio-sclerosis (hardening of the arteries), and premature old age. The remedy is to avoid much meat in the diet, and to balance what little is eaten well with vegetables like cabbage, lettuce, celery and spinach. When meat is eaten it is well also to remember that increased activity and exercise should be taken in order to help in its oxidation.

When the body is healthy, small portions

of meat taken with the vegetables can be properly digested, assimilated and add vigor to the system, but in diseased conditions meat should be avoided, for the reason that the digestive power of certain cells is at fault in all diseased conditions, and especially so in those conditions which are caused by bacteria.

The cells of the body are engaged in trying to digest the bacteria. Meat proteins afford a splendid media to aid in the growth of the bacteria. When we eat meat during the progress of an infection, we double the burden of the already over-burdened digestive cells. They are unable to digest the bacteria in the foci of infection. They cannot digest the meat protein at the same time. They only partly digest both. This results in the flooding of the system with an ever-increasing supply of partly-split proteid, which is toxic. The result is that a vicious cycle is established and kept going as long as the system is overwhelmed by the eating of meat. The proof of this can be found daily in those who have catarrhal infections of the nose, throat and ears, eczema, rheumatism or any of the common infections which harass us.

Stopping the meats causes an almost immediate amelioration of the diseased condition.

The reason for this is that the digestive cells are relieved of the extra burden of breaking down the meat proteid, and can direct their

activities to the bacteria of the diseased foci. This they at once begin to do, and the result is a rapid cure of the disease in 90 per cent of all those who abstain from meat. Eczema, rheumatism and catarrh are rapidly caused to disappear under this diet of vegetables, and abstaining from meats.

Meats are, therefore, proven to be an unnecessary handicap in keeping the body in health and certainly not indicated in disease. We may, therefore, lay it down that when we have anything the matter with us, that the excessive or even the moderate use of meats will make it worse, and more difficult will be the process of getting well.

The least objectionable meats are, bacon, cooked crisp, eggs, fish, lamb and white meat of chicken. They are the best because they are the most easily digested, and leave behind in the system less to be oxidized, in the form of waste products, but these are not good used in excess, even in health, nor must they be used when we have anything the matter with us.

Fruits, vegetables and cereals are natural foods. Meats are unnatural foods. Natural foods help to keep the body-cells resistant and strong. They also restore them when exhausted by heavy work, or from fighting the bacteria of disease. Meat and meat juices should never be given to one who is confined

to bed by any sickness; they will only prolong the course of the disease.

Healthy men working out of doors may require that one-fourth of their diet be meat, in order to supply rapid waste of the muscular and glandular tissues, but they can stand the wear and tear just as well on a vegetable diet, and will do more efficient work on meat one-eighth and cereals, nuts with fruits and vegetables as the remainder of the diet.

They will be less prone to infection on no meat at all, for meat proteins degenerate to poisonous acids in the system, just as rapidly as out of the system, and leave behind their bad effects. They are eliminated with great difficulty, while the vegetables build only, and do not cause deterioration.

Nuts, beans and milk with cheese, will supply all the natural proteins necessary to build the cells, and they are more easily builded into the body cells, leaving behind no poisonous by-products, which are difficult of oxidation, such as the meat acids. Instead of these we have the earthy salts or alkalies, which readily form colloid fluids and are quickly formed into carriers of nutrient substances to the cells. These colloids of the alkali salts have been called vitamines, but they are simply chemical carriers of carbon and chemicals needed for cell growth and building. They act as the intermediaries for building bone, muscle,

blood, nerve, and cells of all body structures. No life can exist without them; they must be in the food. The plants draw them from the soil and store them in their fruits and grains. Our only direct source for these is through these grains and fruits. When we get them through meat we get them indirectly, after the animal has eaten them in the grains and grasses, and hence not in the form which they were intended for our use. Why get them indirectly? Why not get them as nature intended—directly from the fruits of the trees and from the grains themselves, especially since we have proven that this is the only way to keep our health and preserve our life? From all of which reasoning we readily deduce that the vegetable diet will preserve our health, prolong our life and make us efficient and successful.

Nuts are always best eaten with other food and well salted, so as to aid in their rapid digestion by stimulation of stomach juices.

PASTRIES, PUDDINGS AND SUGARS—SWEETS, JAMS AND JELLIES

I have purposely placed these before meats, as they are MORE SIMPLE and easier of digestion than the latter. Surrounded by the environment of luxury and inactivity as we are in the great cities, we may best substitute much for the heavy meats; for we do not exer-

cise sufficiently to burn them. Meats come last, as they are for the laborer, who sweats every hour, and he has charge of a body engine, with a perfect draft, which burns all the meat he puts into his stomach. He needs the force and vital energy which it furnishes, and may eat his meat three times a day and burn it all. The pastries and puddings may be eaten sparingly after the noon and evening meals. Cakes and pies only when one is in the best condition of health. Sugars are valuable at all times, especially in the winter, as they furnish the ready carbon for heating the body furnace. All starches are ultimately changed into body starch, or glycogen, and are thus stored in the liver, but they are changed again when used by the muscles, and are burned in the muscle as inosite or muscle sugar. The light brown sugar is the best, as it is not processed and overheated. It is Nature's sugar. The more refined the sugar is, the more it has been heated, and the less food value it has. The pure cane syrup is the purest and best, for it is Nature's own product. Brown sugars also aid the relaxation of the bowels, by virtue of their contained vitamines, similar to those of the coatings of all vegetables and fruits, which are derived from the Sun's rays. They are really the stored up chemical or electric ions of the Sun's rays, and are essential to the vital force, needed in carrying out the vital proc-

esses, which must go on in the cells of our bodies. These electric ions are liberated by heat above 150 degrees and are lost. All our foods must contain them, if we would have life and continue in perfect health. The same is true of jams and jellies and all confections; the sun cooked fruit jams are the most perfect and will be found most valuable, especially during the winter.

MEATS

We are all aware that many reformers have arisen throughout all generations to tell us to avoid meat, and it is wise for those who intend to live an easy life, to avoid meat. Meat consumed without exercise will lead to hyperacidity, constipation, sub-oxidation, indigestion and much suffering, with final dissolution. Meat is for the robust, the strong, the vigorous, who live much out of doors, do much lifting, driving, walking, running, jumping and manual labor. Such persons demand food in concentrated form, which is rapidly changed into nourishment for cells which are being rapidly broken down. They can oxidize meat and meat juices, and they demand them and use them effectively. A good rule to follow is: Eat no more meat than you can digest rapidly, comfortably and oxidize completely, without resulting indigestion and constipation.

For sedentary workers, it is best to avoid

meat as often as possible. Take only the light meats, fish, lamb and chicken, and if heavy red meats are eaten to follow the meal by extra exercises, to aid in their complete oxidation. For heavy workers the heavy meats, beef, mutton, veal and all the lighter meats may be eaten, but for such men it is best never to over eat of these heavy meats. Eggs are a splendid food for such men. The meats to be properly digested must not be over heated but are best steamed done. Pork is the least valuable of all the meats, but is the best liked of them all, but it causes the most trouble, indigestion and constipation. Ham is difficult to digest. All salted and preserved meats are most difficult for the stomach to handle. Bacon is the best of all salted pork. Corned beef is the least objectionable of the salted meats. The creosote used in smoking and preserving meats is hard on the stomach.

HOW TO EAT

The great problem is how to eat so as to assimilate quickly, without harm to the cells, and at the same time to enhance the vitality of the cells. The tongue is the great indicator, the taste is the guard, set to warn us of danger. The best rule is: **Never to eat what causes aversion upon tasting.** Never eat anything which is sharp or burns the tongue, for it will burn the stomach and weaken the cells. Fol-

lowing this rule we avoid all sours, vinegars, spices, condiments. These tan the stomach. We avoid tea and coffee, they hold poisons and contain tannic acid. We avoid garlicks and onions, pickles and peppers. This tells us but the negative side. How shall we eat? It is best to eat slowly and moderately, so that we may chew the food thoroughly. It is best to be cheery and laugh at the meals. Bolted food forces the stomach to do double work, and weakens the cells which work digestion. Overeating overtaxes the cells, and overwhelms proper digestion, assimilation and oxidation. It is therefore the best of rules to "stop short of a full stomach," that is to quit eating a little short of complete satisfaction. The stomach may be over dilated and great harm done by the habit of overeating and overstretching the stomach. Later it rebels and refuses to do its work, with a resulting broken vitality. It is therefore best always to go away from the table a little bit hungry.

HOW TO DRINK

Drink always nature's best drinks, water, milk and fruit juices. None of these are harmful, when taken in moderation. Drink not overmuch on a full stomach, drink preferably on an empty stomach and when thirsty. The morning stomach bath with cold, pure water is a splendid stimulant of the normal outpour-

ing of the normal stomach and intestinal juices for the morning meal. It both cleanses and stimulates. Milk is quick nourishment for tired cells, especially when served warm. Pure milk, free from contamination, either of stable dust or of contact with milkman's hands, must be sought and found. Life is in danger in our great cities without it. Pure fruit juices are valuable. Grape juice, orange and lemon juice are wholesome and are best taken before the meals. Grape juice is rich and pleasing, and will restore when very tired, it is best taken before meals, and not at night. Avoid all alcoholics. Alcohol is the excretion, the dung of the yeast plant, and was never intended for human food. When so taken it acts as a narcotic, cooks the cells, hardens them till they look like cooked egg, and stops their normal activity. Alcohol when used habitually hardens the tissues, especially the nerves. When taken in the form of beer habitually it causes enlargement of the liver. When taken as strong wines and whiskeys it causes hardening of the liver and kidneys. He who would have vitality must avoid alcohol.

CEREAL COFFEE

The habit of drink with the meals has been proven a valuable one. The drink must be harmless, and a splendid substitute for coffee may be found in the cereal coffee which is ob-

tainable everywhere. Hot water and milk may be found a serviceable change, and a good substitute for those who do not like the cereal. Soups are valuable on cold days and offer quick nourishment in the form of milk, vegetable, butter and meat juices of which they may be made. They rapidly restore tired and hungry cells. A fine bowl of soup is a great aid to vitality. Crackers may be added as a fitting filler to this and a bit of home made whole wheat bread.

MODERATION

Moderation in eating and drinking is a short way of expressing the fact that we may best exercise restraint upon ourselves. Self-control is best begun early in life. No more should be eaten or drank than can well be assimilated. Each individual is the judge of himself. Know thyself thoroughly, know thyself so well that you do not, dare not violate thine own capacity. Know your capacity, your body so well that you never take on more than may be well burned and assimilated. Then truly you will be in good health. Try earnestly to keep in the pink of condition daily and hourly, by control of your appetites according to your knowledge of your ability to take care of what you eat. Then truly you are eating efficiently, and may reasonably expect to be healthy.

CHAPTER II.

EXERCISE AND HEALTH

Healthful, Efficient Exercise and Body Drill. In Order to be Healthy be Active, do not Hibernate. Get Out of Doors. Do Something

What has been written thus far has been chiefly directed to solving the problem of what is the proper fuel for the body furnace, which will least clog it, and assist in keeping up the vital fire. Equally and reciprocally as important is the problem of what is the proper exercise for the body. Generations have come and gone, and system after system has been propounded as good, but no scientifically efficient system has been universally adopted and adapted to the every day life of the average person. A system to be practical, that is useable by every one, must meet the needs of the body daily and without apparatus. Efficient body drill is possible and the most efficient without apparatus.

BODY DRILL BY STRETCHING AND MUSCLE CONTRACTION

The object of all exercise is muscle control and movement which breaks down old and devitalized tissue cells and compresses blood

vessels, forcing out the venous blood, which carries away the carbon dioxide and muscle acids, and stimulates the influx of arterial blood, which carries new nutriment for the building of new and efficient cells. This process is essential to both the proper circulation of the blood, heart action, nutrition and proper functioning of all the organs of the body. In fact the perpetuation of the vital force depends upon it. When this link in the chain of vital activity is lacking in any muscle of the body, its cells gradually die and it becomes atrophied. Then the organs of the entire system must readjust themselves to this loss of function. The blood must seek new channels, where the muscles are used. This is the basis of one-sided development. It is the cause of haggard faces and deformed chests. It may be the cause of the early snuffing out of many a promising life. The atrophy of certain muscles of the abdomen and chest from disuse or improper use may predispose to improper breathing, which leads to certain congestions in the throat and lungs. This in turn may predispose to infection which finally ends in death. Prevention is possible by beginning early in life the normal use of the muscles. Cure of many seemingly hopeless conditions is possible by beginning late in life to take proper exercise. Normal activity is the price of muscular growth and health. Life and activity

cannot be separated. The muscles, the organs, the bones, the nerves and their myriad constituent cells are living and can only be nourished by motion, which forces into them the nourishment offered through the assimilation of the food we eat. It requires effort to secure the reward of a healthy body, under perfect control. The mind must be used in every such effort. Each muscle must receive a separate nerve impulse and be guided lest it be overstretched and torn in the effort. Moderation must govern in the beginning of these exercises by the uninitiated. Especial warning is given here to the young and those past middle life, who essay this system, to begin carefully and not to overdo. It is a very good plan to adopt the following rule with regard to any exercise of whatever nature: Begin slowly, go gently, gradually increase, up to the point of mild fatigue, but not beyond. All the voluntary muscles in the body have muscles which are naturally opposed to them, and other muscles which may be easily brought into opposition, so that muscle building by resistance and stretching is not difficult.

BODY DRILL

Many a man past fifty comes home tired all the time. Boys and girls often are pale and anemic and complain of feeling so tired. At their school desks, they are always lolling.

The remedy is proper exercise to make the muscles do their work. Men and women suffer for years from indigestion and constipation and much attendant weakness, which contributes largely to their inefficiency. Exercises which lead to muscle control will remedy all this. Personally, I have been able to gain control and completely surmount these difficulties by addressing myself to proper muscle control through body drill.

I have addressed myself to the perfection of a system which I trust will be found of value to many who fail to properly burn their food because they are forced into sedentary occupations. Everyone who will study his own muscles will find that he can learn a system of contracting them for himself, if he will try. I am giving you mine as an aid alone. You will find others like mine in other books, and if they fit your case better, use them. These are given because they have been found convenient and effective in keeping me in health and fit every day for my work, and with increasing pep and vital energy, needed to carry forward my work of healing the sick in the largest commonwealth of our country. Try them. Improve upon them, then pass the good word along to some one else, who needs them.

1. Stretching.—Nearly everyone enjoys a good stretch. Advisedly did I say nearly. One who has a sore spot somewhere, will

naturally avoid a full stretch, but he is not healthy and needs to carry this exercise out with caution, lest he tear loose adhesions, cause hemorrhage and extension of infection. It is best for one who has such a sore spot, which actually cuts off a good stretch, to consult a physician, to determine the nature of the trouble before this exercise is practiced extensively. The best method of carrying it out is illustrated by the dog, as he gets up from his nap. He places his paws in front of him, humps his back. His tail sticks up. He stretches his neck, opens his mouth and yawns. The very skin of his back moves. He has shown that he has every muscle of his body under perfect control. In a similar manner, you will carry out this stretch and yawn after the most natural manner possible. The exercise is best taken when at full length in bed, before rising in the morning, but it may be taken standing or sitting at any time during the day, when needed. The feet are extended as far in a straight line with the trunk, as possible, the hands are extended naturally above the head, and behind the neck, the knees may then be drawn up and extended again, the back is arched and the head is turned from one side to the other, while flexing the arms, the mouth is opened, a breath is taken quickly and expelled with a yawn. All this may be done once, twice, thrice, until entire satisfaction is gained that

the tired feeling has been all squeezed out. The natural result is relief and you are now wide awake and ready for more exercise. The best plan is to begin this at a certain set time every morning and to continue it regularly at that time throughout the year. These exercises may be carried out for five, ten or fifteen minutes, at the wish of the individual, and according to his judgment as to his own needs. As a check on his needs he may note his ability to control certain muscles and not others and apply himself to those muscles which need the most attention. Sore spots and weak spots may require especial care, involving regular but not violent stretching. This entire body stretching may be repeated from one to three times at first and gradually increased up to seven, to obtain complete relief from fatigue. The next exercise begins with the feet.

2. Lying on the back, the feet are extended and the attempt made to touch the bed with the toes, then, just the opposite, bend the toes toward the knees, with the heels as the fulcrum. This exercises all the muscles of the foot, the ankles and the front and back muscles of the calf. It may be done alternately with each foot or together three times and increased daily up to five, then ten.

3. The next thing is to go one step higher above the feet and flex the calf muscle. This may require some practice on the part of the

beginner. The main thing is to make the attempt to move the calf muscle alone. This may be also done alternately, and repeated up to five times. The next muscle is that of the anterior part of the thigh, the great three-headed muscle, which we use in running, jumping, squatting and racing.

4. This muscle, just above the knee, may be flexed consciously by placing the palms of the hands above the knees and making the voluntary effort to flex the muscle.

5. The muscles on the rear of the thigh may be flexed in a similar manner.

6. The muscles of the buttocks may then be flexed by placing the palms of the hands beneath the buttocks and sitting hard by flexing them.

7. The next nearest muscles are those of the small of the back. They may be flexed by arching the spine at its lower portion.

8. It will be noted that we are endeavoring to cover the muscles from the lower extremity upward. The abdominal muscles are the next. There are three main exercises for these: The first is to extend the navel as far forward as is possible, then depress it as near to the spine as possible. The second is: Move the whole abdomen in a circle as far to the right and around, as is possible, then as far to the left and around, in each direction at least three times. These two exercises move the

contents of the bowels, stimulate peristalsis. The pressure fills the blood vessels of the abdomen with fresh blood, which relieves the pressure in the blood vessels of the head and often stops a very severe headache almost immediately. These two exercises, if used regularly, will be found a very effective aid to the regular movement of the bowels. They will, when used persistently and combined with a proper diet and a regular time for going to stool, cure many cases of obstinate, chronic constipation.

SIMPLE EXERCISES IN BREATHING

9. By this time we are ready for the breathing exercises, which will rest us somewhat before we take up the exercises of the upper extremities. The breathing exercises given have been adopted from several different systems, and modified to suit the purpose of perfect aeration of the blood, and completely filling the extremities with freshly oxygenated blood. The first exercise is plain inflation. With the hand on the abdomen, inflate the lungs by forcing out the abdomen like a bellows, slowly, while counting eight. This will usually take about four or five seconds by the watch. The time of deflation is the same, while counting eight. This may be repeated freely from eight to ten times, at least until the hands and feet are warm from the increased heart action caused by the deep breathing.

This is pure abdominal breathing. The second exercise is like the first except the lungs are filled rapidly, in four counts. The breath is then held for 20 counts and expelled again in eight counts. This exercise gives control over the diaphragm and abdominal muscles, and adds to the oxygen carrying power of the blood more rapidly. The next exercise inflates all the cells of the upper part of the lungs. The ribs are raised and extended out at the sides as far as possible, the diaphragm is drawn up against the bases of the lungs and the lungs are filled with air. This may be repeated four times, counting four while the breath is held. or counting twenty, while holding the breath. This exercise fills the lungs with fresh blood, reoxygenates venous blood in the lungs at the time, stretches the diaphragm and stimulates heart action. The last breathing exercise may be used to empty the stomach, if it is at all sluggish in emptying itself. The exercise is taken while lying on the right side, with the knees flexed. A long breath is taken inflating the lungs, so as to press the diaphragm down upon the stomach. Then the breath is held and the abdomen is pressed upward against the stomach by alternately forcing the navel in and out, consciously making pressure up against the stomach. This places the stomach between two sets of muscles, above and below, like a rubber bulb between

the palm and fingers of the hand, and the liquid therein is naturally expressed. The stomach may be washed in this manner, by first drinking some salt and warm water and following with the exercise. After this the natural thing is to rest. In fact these exercises will be especially enjoyed in the morning, if rest is taken between efforts to carry them out.

SPECIAL EXERCISES IN BREATHING

The value of taking long breaths by filling the abdomen first with air like a bellows, commonly known as abdominal, has been long recognized as of great value. It is well for one who is unaccustomed to breathing exercises, to begin with these simple exercises at first. It is well to take five of these deep breaths each morning on rising, with windows wide open in the bedroom.

BREATHING BY HOLDING THE BREATH

The whole purpose and intent of deep breathing is to hyper-oxygenate the blood; this may readily be done, according to the teachings of the Hindus, by holding the breath. According to their teachings, they become so expert in this that they are able to suspend animation completely, and remain alive indefinitely by holding the breath which is open to doubt. Their method is to practice taking long, deep breaths and to hold them for just

as long a time as possible. The first step in the process is to begin by holding the breath for fifteen, thirty and sixty seconds, and then continuously from two to five minutes. This should not be done by the beginner, but should be learned only after years of practice and patient testing the power of the lungs and the system to stand the strain.

THE INSPIRATION METHOD

The inspiration method is the ideal one for the beginner, and may be practiced on waking in the morning, during the day when very tired, and on retiring, to secure poise and easy repose. This method gives self-control to the one who practices it religiously. It gives mental balance and assures one of power and influence. The method is as follows:

Take a deep inspiration slowly, counting four while taking the breath. Then hold the breath while counting fifteen. Then, expell the breath, slowly while counting eight. Repeat this as often as is necessary to send the blood coursing through the fingers and toes, or until you have lost completely that tired feeling, and know that you are exhilarated.

DYNAMIC BREATHING

This method is the most valuable of all, because it forces the oxygen into all the unused air-sacks of the lungs. The method is as follows:

Draw the air gently into the lower part of the lungs and the abdomen by extending the navel as far from the back-bone as possible, filling the whole abdomen just like a bellows. Then hold the breath counting ten, twenty, twentyfive or thirty; at each count forcing the navel as far back to the back-bone as is possible, extending the ribs at the same time and pumping the air into the upper part of the chest, all the time holding the breath. What does this accomplish? It forces the air first throughout the entire lung. During the extension of the abdomen and its contraction, it forces the blood out of the vessels in the organs and up to the lungs. It also forces the contents of the bowel onward, so as to relieve constipation and sluggishness, and by the increased air-pressure in the lungs, due to the rhythmical contractions, it drives the hyper-oxygenated blood to every part of the system, thus restoring life and health to all the organs. This, if done carefully and systematically, will result in rejuvenation to the one using it.

10. We now begin with the hand muscles by opening and closing the fists, by waving the hands from the wrists, back and forth and from side to side. This takes in the muscles of the hand and forearm, and may be repeated eight to ten times.

11. The whole arm is then rotated in-

ward and outward to get the shoulder rotation muscles.

12. Then we may take several resistance exercises of the arms. The wrist is grasped by the other hand. The arm is held straight and down at the side. It is then pressed toward the middle line and out to the side, resisting with the hand holding the wrist. This employs the muscles of the sides of the trunk and the back of the upper arm and shoulder. It may be done with each alternate arm and opposite wrist grip. The same wrist grip is employed in the next.

13. Grasp the wrist. Flex the forearm and arm on the shoulder, again pull the arm down to a straight arm, resisting all the time with the other arm. This exercises the biceps and the posterior arm muscles. Both arms are employed and alternately for five evolutions.

14. The next is the striking exercise. It is done by grasping the wrist or fist of the opposite arm, and driving straight from the shoulder, up into the air, and again from side to side of the body, all the time resisting by holding the wrist with the other hand.

15. The next are the back muscles. Grasp the fingers of one hand into those of the other as hooks, and pull till you feel the back muscles tense. This tenses the muscles between

the shoulders. The next is the long muscles of the back.

16. The head is thrown back and buried in the pillow. The body is suspended between the heels and the head, the back being arched. This is repeated from three to five times, allowing the body to relax each time. The same is again repeated so as to tense the muscles of the whole side of the body, while crossing the feet and throwing the body from side to side. The opposite exercise is to flex the neck on the chest and raise the feet to an angle of twenty degrees, flexing all the muscles of the front of the body.

17. The next exercise is a resistance exercise involving the thigh and the arms and the muscles of the entire back, neck and abdomen. Flex the knees. Grasp one knee with both hands and attempt to pull with both knee and arms alternately throwing the head back, arching the back muscles and then flexing the neck and chest muscles, pulling at each impulse. This is done alternately with each leg. A different effect is obtained by grasping the thigh above the knee by uniting the hands behind it, and attempting to straighten the leg while pulling the back toward a straight horizontal. This exercises the muscles about the hip and thigh and the back and arm muscles in unison.

18. The next are the muscles of the head and neck. The skin muscles may be tensed

rhythmically on the chin and neck. The neck may be rotated from side to side, while resisting with the hands, and also from front to back.

19. The shoulder muscles are best exercised by raising them, by rotating them and by extending the arms as far as possible toward the sides.

20. Last but not least are the facial muscles. Many faces are old prematurely. This may be prevented by proper exercises. When the cheek bones seem too prominent, and the cheeks hollow, with heavy wrinkles from the corners of the mouth. While the corners of the mouth droop giving a sour expression to the face. Exercise of the facial muscles has been neglected. Such people rarely smile. Rhythmic contraction of the face into a smile practiced regularly for a year, will change the harshest face and fill up the hollow cheeks with becoming muscle and the skin with nature's life-tinting blood. The last exercises involve the head and scalp. Hollow eyes may be improved by using the soft parts of the hands in kneading them daily by gentle rotary motions. The scalp may be flexed on the forehead and even the ears may be moved. The final exercise is flushing the nasal sinuses with fresh blood. This heals them and both prevents and cures catarrh. Holding the muscles of the sides of the neck between the thumbs of

the two hands, turned forward and the full four fingers together to the rear, encircling the entire neck, make gentle, firm, gradually increasing pressure, draw the thumbs to the rear, making pressure over the jugular veins in the neck. Keep up the pressure until the tears come into the eyes and secretion comes into the nose and the postnasal space. You have flushed your nasal sinuses and the head with fresh blood. This may not be done every morning, but often enough to keep the head as clear as a bell. We have now covered the entire body with graduated exercises, which if done in moderation and gradually increased, will build a strong and healthy body and take care of normal food fuel fed to the body, as given in our first chapter. These exercises are not absolutely essential for the man who is doing manual labor, but they will make even such a man more supple, and take the kinks out of his muscles, and render him less liable to lumbago, cramps and the danger of becoming muscle bound or abnormally developed, as to certain muscles and underdeveloped in others. These exercises will come as a great boon to the shut in ones, especially the society belles and the tired mothers, whose bodies are bent by the toil of their homes. The morning exercise will give complete rest to the tired body and restore normal function to weak muscles. It will do away with many neuralgias, aches and pains,

and relieve many of chronic constipation, migraine and headaches. New life, youthfulness, zest for work, and new hope for the future will come with new strength. Efficiency in performing tasks will give added buoyancy and promise of sure success with every new undertaking. Try them, use them, pass them on to your friends, and thus make life better and happier for all.

CHAPTER III.

BATHING AND HEALTH

From the time of the ancients the art of bathing has been taught and much virtue is still claimed for certain springs and waters when used for bathing. Watering places are far famed for the healing qualities of their waters, but aside from its cleansing and stimulating qualities, water has no virtue when used externally. Its value may be lost for this purpose, when it is applied improperly. Harm is often done and health may be broken by improper bathing. It is therefore essential that we study carefully the effect of water, both internally and externally, if we would use it intelligently as a valuable means of stimulating the vital forces and aiding the proper functioning of the organs of our bodies. Salt water was the original cradle and grave of all the multitudinous forms of animal life. Our blood stream is but the same medium in miniature, which bathes and carries nourishment to every little animal cell of every tissue of our bodies.

THE FUNCTION OF THE SKIN

The purpose of the skin is mainly for protection of other sensitive organs. It also

serves as a reciprocal terminal pumping medium for the return flow of the venous blood. It is essential that it be kept clean by washing and by rubbing so that this pumping may be effectively carried forward. This covering is also supplied with very sensitive nerve endings which control the vaso-motor nerves. These endings are markedly affected by both heat and cold, and especially when applied in the form of hot and cold water. In the past it has been taught that one of the functions of the skin was the excretion of poisons, but this has been recently shown to be in error.

The thousands of sweat glands serve to maintain proper body heat and prevent its too rapid loss by radiation. The numerous sebaceous glands serve to keep the skin well oiled, so that it may remain soft and pliable, else it will rapidly crack and become infected.

We may now state the rule of healthful bathing. *We should bathe just as often and in such manner as to keep the skin in perfect health, soft and pliable and full of rich blood.*

THE DIFFERENT KINDS OF BATHS AND THEIR PURPOSE

There are many different kinds of baths, and we must know the effects of each, so that we may apply them effectively.

THE WARM BATH

We purposely choose the term warm bath, for a hot bath is enervating and exhausting.

The hot bath may be employed in the form of steam and hot water, to swollen and inflamed muscles and sprains, and is valuable, but its routine use in adults for cleansing purposes, except in the case of very robust adults, is not wise. We advisedly choose the warm bath for the purpose of keeping the pores open. Clogged pores prevent proper perspiration, and the result will be improper regulation of the heat mechanism of the body, too much radiation at certain parts and not enough at others. Cold hands and feet will naturally follow, and especially to those who wash face, hands and feet often and neglect the bath and rubbing of the skin of the entire body. The temperature of the bath should be between that of the skin and the air. A very comfortable bath is that at 94 degrees Fahrenheit. It is none too hot and not too cold. It cleanses, but does not over stimulate. One should cover the entire body with water and remain in the water not over ten minutes. A good castile soap will aid in cleansing and should be applied to all the skin surface. Rubbing with a flesh brush will aid in stimulation and bring blood to the skin surface, if stimulation is desired, and this is a valuable thing to do, if the bath is taken in the morning, so as to cleanse the venous capillaries and bring fresh blood into the arterioles. This warm bath relaxes the vaso-motor nerves of the skin and opens the

pores. It should always be followed, in the morning, by a taper off with cool water at the end, which will serve to close the pores again, and prevent taking cold. This contracts the vaso-motors and restores tone to the skin. This warm bath is very valuable to those who are weak in vitality, as it does not over stimulate them. It may well be taken most often on retiring, as it relaxes the vaso-motor nerves and prepares the tired organs for sleep. When used in this way, it is well to follow by merely drying the skin by mopping with a soft towel, then don the slumber robe and tumble in between blankets, and have a care that no direct draft blows on the head. This bath will enervate and weaken, if the one using it remains in the water too long and will serve no good purpose, if taken too often, for it may result in too free action of the pores and consequently too rapid radiation of heat, this heat loss, predisposes to cold taking and lowers vitality. This may be often seen in those who frequently and habitually resort to the hot Turkish bath.

THE COLD BATH

It is also essential to understand the effect of the cold bath, which we have already hinted above. The cold plunge, shower and sponge are very stimulating. They contract the pores, and close them against the egress of perspira-

tion. In fact, they close the pores of the mucous membranes, through the action of the vaso-motor nerves, combined with that of the sympathetic, and hence they check the danger of infection.

Caution must also be observed in using this bath, for it drives the blood rapidly from the skin, and if employed daily may cause congestion of the kidneys and acute nephritis. The cold bath may be employed in several forms. The cold plunge is the common form, best used in the summer time. The body is submerged quickly in water colder than the air. This is immediately followed by a brisk rubbing with either salt, a coarse brush or a rough Turkish towel. The rubbing is essential that the shock may be followed by a reaction and the complete filling of the skin capillaries with fresh blood. Neither this bath nor any other should be taken directly after or within three hours of taking food, as such a procedure takes blood from the stomach, where it is needed for normal digestion. The cold shock bath may be taken in the morning, to close the pores and prevent taking cold. It is taken by dashing the cold water directly on the chest and back with spray or towel, and then, following with brisk rubbing with a rough towel. It may be, and is best taken in less than five minutes. The wet sheet is a splendid method of reducing fever, it is em-

ployed in reducing continued fevers, such as typhoid. The sheet is wrung out of cold water and spread over the body and remains there till warm. It is then removed and the body dried gently. The same result may be obtained by the graduated sponge bath, which is employed in very weak patients. This bath may best be given with water body warm. One limb at a time is sponged, from the extremities to the trunk. As each limb is finished it is dried by sponging with a soft towel, and covered again by the underclothing. The limbs are finished first, then the trunk, back first, then the front. This method drives the blood to the trunk and stimulates the proper flow of the blood.

THE SHOWER AND PLUNGE IN A POOL

This bath is valuable after muscular exercise in the open or in the gymnasium. The shower is best given first, so as to cleanse the body and prevent the contamination of the pool with body dirt and secretions. In taking a shower care should be taken not to pour the water warm or cold directly on the head. This is too much of a shock to the central nervous system, and it also ruins the hair, favors dandruff, and infection of the hair roots. Washing the head and hair is a very particular piece of business and should not be undertaken in the shower bath, unless one is prepared to follow it up by using oil on the hair, after drying it thor-

oughly. The temperature of the water in the pool should be as near that of the body as possible, preferably from 94 to 98 Fahrenheit. This prevents shock on leaving the water. The beginner should remain in the pool not longer than fifteen minutes. This period may be increased to half an hour, but repeated more than once a day it weakens and is not of value, for it reduces vitality by repeatedly lowering and raising the temperature of the skin surface, thus extracting heat, overtaxing the nerve centers, by excessive action of the vaso-motor nerve endings, it leads to nerve exhaustion. Boys especially should be cautioned against this excessive bathing in the summer time, when they may desire to remain in the water several hours at a time.

HOW TO GAIN VITALITY THROUGH BATHING

The rule to observe is to take the bath for cleansing the skin at the time when the body is in the pink of condition, and to bring the blood freely into the skin at bed time, and leave it there. When taken in the morning, use the cold rub and bring the blood to the skin by vigorous rubbing. This increases oxygenation, stimulates heart action and will increase the tone of all the organs.

THE INTERNAL BATH

Cleansing the stomach and bowels with an internal bath is a matter of manipulating

the stomach. The exercise for emptying the stomach is given in the chapter on exercises. It is a good plan to combine them with drinking the water for the internal bath, the first thing in the morning, before completing the exercises taken in bed. A glass of Sprudel, Vichy, Appolinaris or any other alkaline water, or just simple, pure, areated and distilled water drank in bed will suffice. This should be taken on the completion of the body drill, and the stomach emptied of the water by the compression of the diaphragm from above, and the abdominal muscles below. The result will be flushing out the stomach and prompt movement of the bowel, usually within an hour of taking.

THE ENEMA

The enema is a great assistant of tired and inactive nature, but should not be used as a crutch, and become habitual, for in that case permanent harm to the lining and function of the lower bowel will result.

There are several methods of preparing the fluid for an enema, and three methods of taking the water. The reclining method, the sitting and the knee-chest position. The latter is the best, for in this position the water seeks the whole bowel by gravity. This is the method: Take the kneeling position, insert the tube, then lower the head and shoulders to the

floor, so that the hips are higher than the head. Now turn on the water and take it gradually, having the water bag not more than two feet above the body. Retain as much of the water as possible, and as long as possible.

The fluid may best be body warm, if mild relaxation is desired, with no stimulation, except that due to the action of the fluid itself, acting to bring the content of the bowel into solution. The fluid which acts best is boiled water which contains a tablespoonful of epsom salts to the quart. Soapy water, glycerine and water, one tablespoonful of glycerine to the quart of water and thoroughly mixed, may be used for evacuation. When rapid tonic stimulation is desired, the water may be cooled off by adding cold, at the end of the enema, or it may be given cold from the start in small quantity, not over a pint. The cold enema is valuable in hemorrhoids or piles.

That the best results may be obtained at the sick bed, with the patient in the reclining posture, and the bed pan in position, it is well to use the high rectal tube, made of soft rubber, and 18 inches long. This tube is smeared with vaseline and inserted for three inches, the water is then turned on and the tube gradually follows the water, till inserted for its full length. The rapidity of flow may be checked by slight compression of the tube, when there is pain, and the flow released as soon as the

pain is gone, thus one may give at times from one to two quarts of water, and obtain complete evacuation of the lower bowel. This serves to remove much toxic material, and reduces temperature quite well. Often in fevers of children the moderately cool enema will reduce the fever and make the child comfortable. The enema bag is one of the greatest aids to keeping growing children in good physical condition, when they are so likely to overeat, become sick and subject to congestions, earache, headache, neuralgia and many obscure conditions, these will often yield to the action of the high enema. The enema is of more value than the medicine chest in any household, and should never be omitted from the armamentarium of the well equipped home.

CHAPTER IV.

SLEEP AND HEALTH

Sleep is the great restorer of tired organs. There is a science of sleep as well as of work. Efficient sleeping is that which restores the normal poise, so that normal actions are done without effort and too rapid fatigue. Excessive sleep is harmful, leading to loss of vigor and effective physical and mental activity. Rest may also be obtained without sleep, but sleep is more effective in real restoration. The taxing of nerve centers and muscles by voluntary action finds a limit at which there must be rest, and complete rest is found alone in sleep. Sleep is necessary for the restoration of energy to tired muscle cells, and the recharging of nerve cells with new chemicals, so that they may send forth anew the impulses which result in voluntary action and may keep up the endless variety of involuntary action, which is going on in every organ of the body. For this purpose, certain of the nerve cells and larger ganglia have the power of retaining their charges like the storage battery, through the action of certain chemical elements, such as selenium, throrium, radium, rubidium and

others of the radioactive elements. The brain is the chiefest of these, containing an endless variety of these elements and all others, in such combinations that it is able to record and keep on record all the vibrations which come to it from the ether, and all objects in the surrounding environment. Memory is determined by these and their proper arrangement. The lower ganglia carry on the involuntary acts of the various organs. The brain itself, all the higher voluntary acts, the use of the five senses, and the power of co-ordination and thought. Here is an endless variety of nerve force being continuously poured out. Rest is needed, and it must be regular and complete, so that none of these forces may become exhausted. Persistent refusal to take regular and adequate rest in sleep leads rapidly to nervous breakdown and insanity.

EFFECTIVE SLEEP

To obtain rest in effective sleep is a great boon. This may be done by observing certain rules. The first is as to eating. The evening meal should be not too heavy. Just enough food to satisfy. Light reading may follow after the food is properly digested, say in half an hour. As soon as first drowsiness comes on, then undress in a warm room quietly. Drink a glass of cold water if thirsty, and empty the bladder. The bed should be sought

between nine and ten o'clock. The bed covering should not be excessive, but sufficient to keep comfortably warm. The pillow should be small and the mattress a solid felt. The window should be open at top and bottom, to insure certain circulation of fresh air. If feet are cold, warm them well before entering the bed, and, if necessary in cold weather, take a warm water bottle, hot iron, wrapped in paper, soap stone or electric pad to bed, so as to keep them warm. Avoid excessive excitement, for at least an hour before retiring, such as public speaking, arguments, overexertion in exercise, running or even in singing, as all these make the mind excessively active, and it is difficult for it to assume repose in a short time after that activity. In case you find difficulty in going to sleep, a few long deep breaths will draw the blood from the brain into the lungs and aid in gaining repose.

THE CAUSE OF SLEEPLESSNESS

Many suffer from inability to sleep. I dare say that none of this generation is perfect in this regard. Hence it is necessary for us to analyze the causes of restlessness and loss of sleep, so that we may not continue to suffer and become the victims of insomnia. The causes of insomnia are many. Perhaps we may get this well in mind by mentioning the more common ones: The first and foremost

cause of inability to sleep is overtaxing due to excessive mental or physical activity, which brings on complete exhaustion of the higher nerve centers. Second, and equally important is perpetual sub-oxidation, either due to improper breathing, because of structural defects in the nasal passages or, most common of all, improper ventilation of the sleeping apartment or perhaps more common still, no ventilation at all. Overeating and lack of proper exercise lead to food stagnation, and absorption of toxins from a bowel packed with unburned food. No sleep comes to a tired body with a clogged bowel. Toxins from microbic invasion. Infection will keep up a continuous irritation of the nerves, and shut off proper sleep. Lack of exercise alone and lack of mental or physical work sufficient to tire the muscles and nerves will stop sleep. Worry and over mental activity will often keep one awake.

HOW TO OVERCOME SLEEPLESSNESS

Knowing the causes of loss of sleep, we may now study them, and apply the remedy.

EXCESSIVE MENTAL OR PHYSICAL STRAIN

Many men go on for a long time at high tension, with no let up, but they sooner or later pay the penalty in shattered nerves and insomnia. Better by far is it to exercise self-control. Mental repose may be deliberately

sought by a change of habit for one or two hours before retiring. This will often require that men and women withdraw from any evening engagements away from home, but if mental poise, good health and adequate rest are valued more than social preferment and night meetings, then it is well to forego all evening social engagements, so that life may be worth living. At first it will be rather difficult to adjust ones self to the new order, but one or two evenings spent in quiet will show the way, and the tired body will soon respond, and sleep will be grateful. To make this easier, reading of humorous stories or some light literature to bring mental change, will aid immensely in starting the work of cellular demand for rest.

SUB-OXIDATION

When one is subject to nasal catarrh or difficulty in breathing with the mouth closed, it is well to consult a physician to determine whether there is some defect in the nose or throat leading to suboxidation, from lack of sufficient air to the lungs, through the nasal passages being blocked. The correction of this defect will often completely relieve insomnia. There is no excuse for lack of properly ventilating the bedroom in this day and generation. Let all the cold moving air into the sleeping room possible, but guard the bed from drafts, both beneath and above. This may be most

effectively accomplished by making a bottom sash ventilator of an 18-inch board, raising the window up flush or a little below the upper edge of the board. Complete circulation may be secured by lowering another window from the top. The sides of the bed may be protected by screens, and the top and foot by coverlids, hung over the head and foot rails of the bed, thus making it impossible for the drafts to strike the body directly. Cover the head with a night cap, if it gets cold enough to waken you.

IMPROPER FOOD, OVER EATING AND LITTLE ACTIVITY

Improper food cannot be oxidized, too much food cannot be burned, it clogs the furnace. Little exercise is worse than no exercise. Toxic results from the eating of food which is not adapted to one's mode of life are certain. The matter of proper food is taken up in detail in the chapter "What to Eat," but it is well for one to study well his manner of living and adapt his diet to his activities. If he must eat heartily, then he must take more exercise. Over eating is the sin of this generation. We spend our days in thinking of new ways in which to denature our foods, so that they may add yet another taste to our already pampered appetites, and then we go out and suffer. Natural foods are best, but nothing in excess. A loaded digestive tract is a bad

handicap, and almost certain to prevent proper repose.

LACK OF PROPER EXERCISE

When one is in perfect health, with all body processes going forward, all organs in tune and functioning perfectly, he cannot expect to sleep, if he does not work. No more should he eat, if he does not work. It requires expenditure of energy to exhaust the cells, so that they will demand rest. They must be emptied of their stored up energy. Systematic exercise taken every morning according to the drill given in our chapter on exercise will give tone to the whole life and bring the necessary physical output to give mental poise for the duties of life. Walking in the open air will add oxidation, when deep breathing is added. Work—mental and physical—will be necessary, and hard, efficient work is necessary to give the expenditure which will grant repose.

HOW TO OVERCOME SLEEPLESSNESS

In order to overcome inability to sleep, when the habit has been established, it is necessary to adopt certain measures which will relax the tension which has been placed upon an over-tired nervous mechanism.

Tired nerve cells must be released from incessant activities in the old and accustomed channels, and the nerve fibers of the periphery

must be also lulled to slumber. The bath at 94, as outlined in the chapter on bathing, will aid in preparing the nerve fibers to rest.

A METHOD OF PUTTING THE CELLS OF THE BRAIN TO REST

Any method to be successful, must take the mind off the duties and work of the day, and force it to do work which will shut out everything else and become monotonous. This may often be accomplished by reading some difficult and abstruse literature, just before retiring, by enjoying some excellent music, which fixes the mind, and gradually draws it into new and pleasing channels. But all these may fail, and one go to bed and toss restlessly for hours without sleep, because thinking about some failure or some great sorrow, or simply about the inability to sleep. This may be overcome, by fixing the mind upon God, His mercy, His infinite goodness, His peace, and His rest, which is limitless. Continuing deeply to try to fathom his wonderful power and goodness, soon the mind is at rest in Him. This may be assisted and victory often won, by removing the blood from the brain by taking regular deep breaths, using the abdominal muscles as a bellows to draw in the breath and expel it, counting the breaths the while, keeping this up till too tired to repeat it, then continuing the counting, until too tired to count, and if not

by that time asleep, counting backward. Usually, before having counted 500 one will have lost himself in quiet slumber. It is always well to fix the mind upon the intent to sleep, and to be convinced that one will sleep, and even if it takes time and patience to accomplish it, yet to rest content with the fact that, as long as one is lying prone and comfortable, he is just as surely resting, and this is of great value, even if sleep does not come at once. There is little gained by tossing from one side of the bed to the other and from fretting or worrying. To have a calm mind is half the battle.

CHAPTER V

THINKING AND HEALTH

Mind Discipline and Health

It is essential for one who would remain in perfect health to remain in complete control of his mind through discipline, commonly known as self-control. Unless one goes about this systematically, he will frequently and readily fall into the meshes of harmful suggestion from his friends, as well as his enemies.

Self-control is indeed an anchor to the soul and a very trustworthy director of the habits. Verily, if you would be master of yourself, you must systematically, daily and persistently exercise your WILL-POWER. If you do not do this someone else will drag your will around by the nose, and you will become but an imitator of others, and ultimately a machine or a nonentity.

There is a possibility of also becoming a slave to unworthy self-suggestion. This can be avoided by coming in contact with the characters and the minds of the great men and women of all past generations, and in intimate contact with the great spirits of this generation. This may be done by directing one's

thoughts and attention in channels of proper reading, which brings us to a very important subject for our consideration; the kinds of books, papers and magazines to read. First let me say I would be an optimist, therefore, I would read the writings of all the optimists of all generations. The Christ of Nazareth stands pre-eminent. We would do well to study daily His life and character, and embody His ideals as our own, making our life-work glorious by so doing.

With reference to ethical writings among the books we should read, we would place the Bible first with this reservation, that we must choose from among its writings, that which is elevating and uplifting. Among other ethical writings, we would do well to study thoroughly those of Socrates and Plato, of Confucius and of the Hindoo Masters. For the stimulation of definite ethical purposes in your thought, it is well to study the writings of the great apostles of the church, found in the four Gospels, and especially those of John the Apostle and St. Paul.

BIOGRAPHY

The personal lives of great men found in their biography will also be found a great help in your life. "Lives of great men all remind us, We can make our lives sublime." We will find food for thought and valuable suggestion for

future action in studying the struggles and victories of great men. In ancient history we study Cyrus and Alexander. In Roman history we study Cæsar. In mediæval history we study the Heroes of the Reformation—Calvin, Huss and Luther. In modern times, we study Gladstone, Lincoln and Moody. In present time we study the lives of the captains of industry and the capitalists.

HISTORY

In order to have a broad view of the life of humanity it is well often to review the crucial events in the life of each nation of the world, which have led to the shaping of the future of that nation.

The individual may find in the heroic work of certain men who rise to the occasion at these crucial times, suggestions which may help him meet the crises of his own time and among his own people. When the mind is thus occupied there is a great impulse for the highest thinking and the purest living found in self-sacrifice for the good of others.

FICTION

The mind must be released from vigorous struggles at times to dwell upon thoughts of lighter vein. These will be stimulated by the use of fiction of high tone. Fiction should be sought for recreation and pleasure; it will be found best to use, for this purpose, the works

of the masters. Of these none is greater than Shakespeare. Time should not be wasted in reading second-rate fiction produced in large profusion in the cheap magazines of the day, but a careful selection will find much that is elevating in the short story of present day fiction.

THINKING

Mental discipline may also be attained by adopting a system of efficiency in thinking. Loose thinking is easy and indicates a mind that is on the down-grade. Thinking according to a system, is efficient thinking and indicates a mind that is building and ever climbing upward. It is a good plan never to allow the mind to run carelessly, but during the moments awake, when one is alone, to weigh carefully the things which are uppermost in the present plans for work. This plan may be carried out by having a time for a "morning inventory," (Woodism), in which a definite plan is laid out for the day, which may be carried out exactly during the work of the day.

It is a fine thing, also, to have a set time, usually upon retiring, to review the carrying out of the plan adopted in the morning, and to praise or condemn what has been done. By so doing one may find his weak points and daily make progress toward a higher efficiency in both mind control and business ability.

WRITING

It will be valuable to those who follow you, to write down your life experience. As Bacon says, "Reading maketh the full man; writing an exact, and speaking a ready man." Nothing will contribute as much to your efficiency and self-discipline as writing down your best thoughts for the purpose of helping others. This should be done daily and systematically so that nothing of valuable experience may be lost, either to yourself or to others.

SPEAKING

Speaking in public will also increase your confidence in yourself, the rapidity and readiness of your thought, and your power to influence others. What you are after is mental power and balance. This you can only gain by mental activity combined with physical activity, found best in public speaking.

SELF-CONTROL

The world wants action. If you would gain influence and power over men, you must first learn self-control. Self-control is mind-control. If you carry out what we have given previously in this chapter, you will attain mind-control. Dominate yourself by acting daily, upon the plan which you have thought out, and make it go in spite of all obstacles. Work hard and strive earnestly to fill in all the details

which makes your plan a perfect one. Men will believe in you when they see that you believe in and trust yourself, and they will follow you through thick and thin to help you carry out your plans.

IDEALS

Nothing will be accomplished in mind-control and self-discipline without ideals. Think out your ideals, then live up to them. Aim high. Create something daily just beyond your reach, for which you must work hard and strive to the limit to attain. Create something daily, as a result of the ideal which you have set before you, then you will surely accomplish something for which you may be justly and honestly proud, and something which is a worthy object for which you have striven. By thus doing you will daily increase your confidence in your ability to do things. You may thus reasonably say to yourself, "My life is worth living."

SUCCESS

Success is found in the attaining of high ideals. It is possible for every mother's son of us to place ideals in our minds daily, which we may reasonably expect to attain. It is possible for us to know definitely, that we really do attain them. Such attainment is success. It is the wish of the writer that the reader may thus attain.

APPENDIX

I. WHOLE WHEAT HEALTH BREAD

To one and one-half pints of tepid water or skim milk add one heaping teaspoonful of salt and one-half cup of light brown sugar, one teaspoonful of honey or Orleans molasses, one-half teaspoonful of soda.

Stir in with half pint of sponge made from yeast and white flour the above ingredients and whole wheat flour until it is almost too stiff to stir.

Place this batter or stiff dough in tins or tomato cans one-half full, and let rise nearly to the top; this may take two hours. Then bake in a moderate oven.

When done wrap in a moist towel until cool. The bread may also be freshened by wrapping in a warm moist towel and placing in a moderate oven for a few moments.

(Mother Martha Jane Wood's Recipe.)

This bread contains all the elements necessary in a health bread for adults and children.

II. RECIPE FOR WHOLE WHEAT GRIDDLE CAKES

2 cups whole-wheat flour.

1 cup white flour.

1 teaspoonful soda sifted through this.

2 cups buttermilk: add to the buttermilk 1 tablespoonful of honey, Barbadoes molasses, or the same amount of No. 11 light brown sugar, 1 teaspoonful of salt. Mix these thoroughly throughout the milk; stir this liquid through the whole-wheat flour, adding a little more milk if necessary, to make the batter the right consistency for baking. Then add two eggs, well-beaten, stirring it thoroughly throughout the batter. Bake on a hot griddle

—Mrs. Elizabeth T. Wood.

III. WHOLE WHEAT MUFFINS

3 cups whole-wheat flour.

2 cups milk.

1 tablespoonful butter.

1 tablespoonful baking-powder.

1 teaspoonful salt.

2 eggs.

1 tablespoonful of honey, Barbadoes molasses, or No. 11 light brown sugar. Enough for 12 muffins.

Sift the baking-powder and salt through the flour, melt the butter and mix both the butter and eggs, well beaten, throughout the milk, adding a little warm water to the milk to take the chill off, if cold. Stir the milk through the flour with a tablespoon to make a smooth batter. Place in muffin-tins and bake in a hot oven.

Note:—Two cups of sour or buttermilk and a teaspoonful of soda may be substituted in the above for the sweet milk and baking powder, if the sour milks are to be had. These recipes are very valuable to prevent constipation and other derangements of the bowels.

IV. SALT-RISING WHOLE WHEAT BREAD

Yeast:—Take one cupful of sweet milk in a quart cup. Place cup upon stove until milk boils well. Stir into boiling hot milk five or six teaspoonfuls of whole white cornmeal to which a pinch of soda has been added. Wrap up well, and set in a warm place over night, or until it is light.

Sponge:—Pour one and one-fourth cupfuls of water, as hot as the hand can bear, in a bowl and add two cupfuls of whole wheat flour. Then add the yeast from the quart cup, and stir with a spoon until mixed. Place the bowl in a warm place until the sponge rises well, about one to one and one-half hours. A good way to keep the sponge warm is to place the bowl in warm water. The water should be at body temperature or warmer.

Dough:—Take one and one-fourth cupfuls of hot water (almost boiling) and dissolve in it four teaspoonfuls of sugar, one teaspoonful of salt, two teaspoonfuls of lard, and add six or seven cupfuls of whole-wheat flour. Then add the sponge and mix well. Add more whole-

wheat flour if necessary to make a rather soft dough. Mould the bread into loaves at once. Put in a warm place to rise one and one-half hours, and bake in the usual way.

Salt rising bread is close grained and it should not be made so light as other bread.

V. DIET LIST OF HEALTH FOODS

BREADS:

From whole grains only:

Whole wheat	Rusk
Rye	Toasted whole grain
Corn	bread
Oatmeal	Norwegian hardtack
Pumpernickle.	

CEREALS. (Whole grain cereals only).

All cereals may be eaten with certified milk and cream (Mark process), pure cane sugar, light brown sugar No. 11, maple sugar or honey.

Oatmeal is the king of all cereals.

Whole wheat cereals come next.

Oatmeal, whole corn	Puffed Wheat
or whole wheat	Shredded Wheat Bis-
porridge	cuit
Krumbles	Wheatena
Grape Nuts	Post Toasties
Whole Rice	

The whole rice is brown, not white.

Pop corn is very good between meals for constipation.

VEGETABLES OF ALL KINDS.

Fresh Vegetables—

Lettuce	Cucumbers
Cabbage	Melons
Celery	Tomatoes
Radishes	Cress
Onions	Parsley

Cooked Vegetables—May be prepared from Mark process, natural dried, vegetables.

Onions	Beets
Cabbage	Young peas
Spinach	Beans
Swiss chard	Corn
Carrots	Turnips
Cauliflower	

All may be creamed.

Note: All creamed vegetables are brushed thoroughly clean and cooked with their own juices—that is, without pouring off the water.

Potatoes, baked in hot air cooker, sweet and white. Eat skins and all.

FRUITS OF ALL KINDS: Fresh and in season.

Apples	Oranges
Pears	Lemons
Plums	Pineapples
Grapes	Grapefruit

Bananas only when at physical work.

Dried fruits, dried only in the sun, or by the Mark process.

Apples

Prunes

Figs

Pears

Dates

Peaches

Raisins

Sauces:

Apple

Peach

Rhubarb

Fig

Grape

Plum

Prune

Gooseberry

Pear

Pod tomato

Preserved Fruits:

Peaches

Raspberries

Plums

Strawberries

Pears

Gooseberries

Grapes

Currants

Quinces

Also jellies of the same, with Mark process, pure cane or light brown sugar.

SWEETS:

The Mark Process

Sorghum molasses.

Cane Sugar — pure
only

Honey

Maple sugar

New Orleans molasses

Also candies made of
these

Pure maple molasses

The use of molasses and honey as side dishes on bread and butter will help control

the excessive use of candy. Allow candy only at the close of meals.

NUTS: Of all kinds in season, eaten with salt.

DRINKS:

Certified milk	Grape juice
Certified cream	Flaxseed tea
Postum Cereal	Barley water
Cocoa	Rice water
Orangeade	Toast water
Lemonade	Lime water
Koumis	Cider
Kazol	Water
Buttermilk (Bulgarian)	

SOUPS:

Pea	Cream of celery
Bean	Spinach
Vegetable	Potato

MEATS:

Meats sparingly only, if taken at all must be balanced well with the articles of diet given above, and when taken, remember that they are difficult of assimilation; that is, hard to oxidize and require increased activity and exercise in order to eliminate their by-products, so as not to poison the system. They are, hence, an unnecessary handicap in keeping the body healthy, and not indicated in disease.

The least objectionable are:

Bacon, cooked crisp	Eggs
White meat of	Fish
chicken	Lamb

PASTRY, PUDDINGS AND CAKES.

Made only from whole wheat flour, and with the Mark process cane, and the No. 11 brown sugar, and pure Orleans molasses, or Barbadoes molasses.

Puddings, all kinds	Ice cream from certi-
Cakes, all kinds	fied cream
Custard	Apple Dumpling

Bread pudding of whole wheat breads, oatmeal and nut and raisin cookies, whole rice pudding with raisins, prune pudding, whole wheat cookies, oatmeal cookies.

PIES: Crust made from Whole Wheat Flour.

Raisins	Cherry
Pumpkin	Chocolate cream
Apple	Custard
Prune	Lemon
Grape	

SALADS: Fruit and nut and vegetable salads, always fresh and freshly prepared.

CONFECTION: Figs, nuts, raisins, dates and prunes, with light brown sugar and honey, rolled in a cake for children, cut in squares. For constipation eaten after meals.

CHEESE: All kinds.

Table No. VI

TABLE INDICATING LIME IN VEGETABLES AND FOODS

Sherman in his valuable work, indicates the foods which contain lime and places them in order as follows:

The figures showing the number of grams of lime for each 100 calories of the food:

Chard	58	String Beans	17
Cauliflower	55	Radishes	17
Celery	54	Carrots	16
Skim milk	46	Parsnips	14
Buttermilk	41.5	Strawberries	13
Spinach	37	Blackberries	13
Cottage cheese ..	3	Onions	12
Molasses	3	Orange juice	12
Rhubarb	26	Lemon juice	12
Lettuce	26	Cucumbers	12
Whole Milk	23	Oysters	12
Cabbage	21.5	Pumpkin	11
Rutabagas	2	Raspberries	11
Walnuts	18	Almonds	4.6
Asparagus	17	Sirloin of beef....	.6

This table tells why fresh vegetables are so valuable in building up the bone and muscle of the body and keeping the blood in its proper alkaline condition, thus preventing the acidosis which results from food containing no alkalies. The low alkali content of meat in general is indicated in this table by the lime percentage

in beef. It will be readily recognized that all fruits and vegetable matter contain lime in quantities sufficient for perfect human nutrition. This is the reason why we have so strongly recommended their use in this book.



INDEX

	Pages
Abnormal Environment.....	11-12
Aborigines	13
Acidosis	49-52
Alcoholic Liquors.....	62
Alkalies Essential in Bread	46-48
Alkalies Essential in Fruits	52
Appendix	119-128
Appendix Cereals	122-123
Appendix Confections	126
Appendix Diet Lists of Health Foods.....	122 to 127
Appendix Mark Process.....	123-124
Appendix Oatmeal King of Cereals.....	122
Appendix Recipes for Whole Wheat Bread	119
Appendix Recipes for Whole Wheat Muffins	120-121
Appendix Recipes for Whole Wheat Salt Raising Bread.....	121-122
Appendix Table Indicating Lime in Vegetables and Foods.....	127
Beans	26-27-28
Bacteria-laden Hands.....	9
Barbadoes Molasses and Sorghum Best.....	57
Bathing: Apollinaris for Internal.....	100
Bathing: Boys Cautioned Against Excessive.....	99
Bathing: Cold Water.....	96-97-98
Bathing: Internal	99-102
Bathing: Shower and Plunge.....	98-99
Bathing: Vitality; How Gained Through.....	99
Bathing: Warm Water.....	94-95-96
Beets	29
Beets, How Cooked.....	48
Beri-Beri	48-49
Breathing: Dynamic	85 to 91
Breathing: Holding the Breath in.....	84-85
Breathing: Inspiration Method.....	85
Breathing: Simple Exercises in.....	82-84
Biographies	114-115
Cabbage	28
Cabbage, How Cooked.....	43
Carrots	28-48
Celery	31-32
Cereals	15, 16, 48-49
Cereals, Whole Wheat.....	48
Chard	29
Chard, How Cooked.....	48
Cider	62
Cocoa	61
Coffee	61
Coffee, Cereal.....	72-73
Corn, How to Cultivate.....	26-43
Cream: Certified. As a Tonic.....	61
Cucumber	37-38
Diseases: Constipation and Indigestion.....	10
Diseases: Due to Processed Grains and Flours.....	10
Drink	60-62
Effective Sleep.....	104-105
Egg Plant.....	89-40
Enema Bag: Value of.....	102
Enema: Cold Water.....	101
Enema: Soapy Water or Glycerine.....	101
Enema: Tonic	101
Enema: Warm Water.....	101
Epsom Salts Enema.....	101
Exercise, Activity (Normal). Price of Muscular Growth and Health.....	76
Exercise, Body Drill.....	75-82

	Pages
Exercise, Breathing	82, 83, 84
Exercise, Carbon Dioxide and Muscle Acid Carried Away by.....	76
Exercise, Dynamic Breathing.....	85-91
Fiction: Stimulates Thinking.....	115-116
Flowers: Cultivation of.....	19-20
Foods: Pure Foods Not Always Healthful.....	10
Fruits	16, 17, 18, 19
Fruits, Dried	53
Fruits, Juices	61
Fruits, Overheating to be Avoided in Cooking.....	18
Fruits, Raw Are Best.....	18
Fruits, Variety in.....	51-53
Garden, How to Make.....	20-32
Graham Flour Porridge Best for Children, Made From.....	15
Grapes	34-37
Ground Cherry.....	40
Hair, Washing of the.....	98
Healthful Living	11-12
Health Rule Good to Follow.....	12-13
History	115-116
Honey	58
Hot-Bed, How to Make.....	23-24
How to Cook and Prepare Vegetables.....	40-41
How to Drink	71-73
How to Eat	70-71
Ideals	118
Immunity	49-50
Infection, How to Avoid.....	49-50
Iron in Spinach.....	52
Jams and Jellies.....	124
Judicious Eating of Meat.....	62
Knee-Chest Position for Enema.....	100
Lack of Exercise Cause of Sleeplessness.....	106
Lettuce	41-42
Malt Marrow.....	40
Mark Process of Drying Fruits and Vegetables.....	53-56
Mastication, Use Your Teeth.....	14-15
Meat, Effect of in Disease	65-68
Meat, Effect of in the Diet.....	62-65
Meats	62-67, 69-70
Melons	30-31
Milk, Modifications in.....	61
Mind Building and Mental Discipline.....	12, 13, 113-118
Moderation in Eating and Drinking.....	73
Molasses	56-58
Molasses, Black Strap.....	58
"Morning Inventory".....	116
Muscle Sugar.....	56
Neuritis	48-49
Nuts	16, 43-44
Nuts: Almonds	44
Nuts: Chestnuts	44
Nuts: English Walnuts.....	43-44
Nuts: Hazel Nuts.....	44
Nuts: Pecans	44
Nuts: Walnuts	43-44
Oatmeal	48
Parsnips	29
Pastries and Puddings.....	68
Pellagra	48-49
Polyneuritis	48-49
Postum Cereal.....	61
Potatoes	38-39
Problem of Life and Health Preservation.....	35
Pumpkins	37
Pyorrhoea, Use of Teeth Prevents.....	14
Radio-Active Elements in Nerve Cells.....	108-104

	Pages
Radio-Active Elements in Brain Cells.....	103-104
Radio-Active Elements, Memory Due to.....	103-104
Raspberries	34
Rest	103-104
Rest, Need of.....	104
Rest, Nervous Breakdown Due to Lack of.....	104
Self-Control	113-118
Sleep and Health.....	103, 111
Sleep, Proper Bedding for.....	105
Sleep, Rules for Obtaining Effective.....	104, 111
Sleep, Ventilation for.....	105
Sleeplessness, Cause of.....	105, 106
Sleeplessness, How to Overcome.....	106-111
Small Fruits.....	32-37
Soup	60
Spinach	29
Squash	40
Strawberries	32-33
Studies on Health Foods.....	45, 73
Sugar	56-58
Sugar, Light Brown No. 11.....	57-58
Sugar, Mark Process Drying and Bleaching.....	59
Sugar, Valuable	68
Sweets, Denatured	57
Sweets, Natural	56-57
Tea	51
Thinking and Health	113, 118
Thinking and Health Fiction of High Tone Stimulates.....	115
Thinking and Health, Ideals in.....	118
Thinking and Health, Self-Control in.....	117-118
Thinking and Health, Success in Right Thinking.....	118
Tomatoes, How to Cultivate.....	24, 25, 26
Tomatoes, How Eaten.....	42-43
Turnips	43
Unworthy Self-Suggestion.....	118-114
Vegetables	19-32
Vegetables, Dried	53
Vegetables, How Cooked.....	51
Vegetables, New Process of Drying.....	54-56
Ventilation of Bedroom.....	107-108
Washing the Hair.....	98
Water	60-61
Will Power.....	118
Worry, Cause of Sleeplessness.....	106
Youth, Indiscretions of.....	11

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